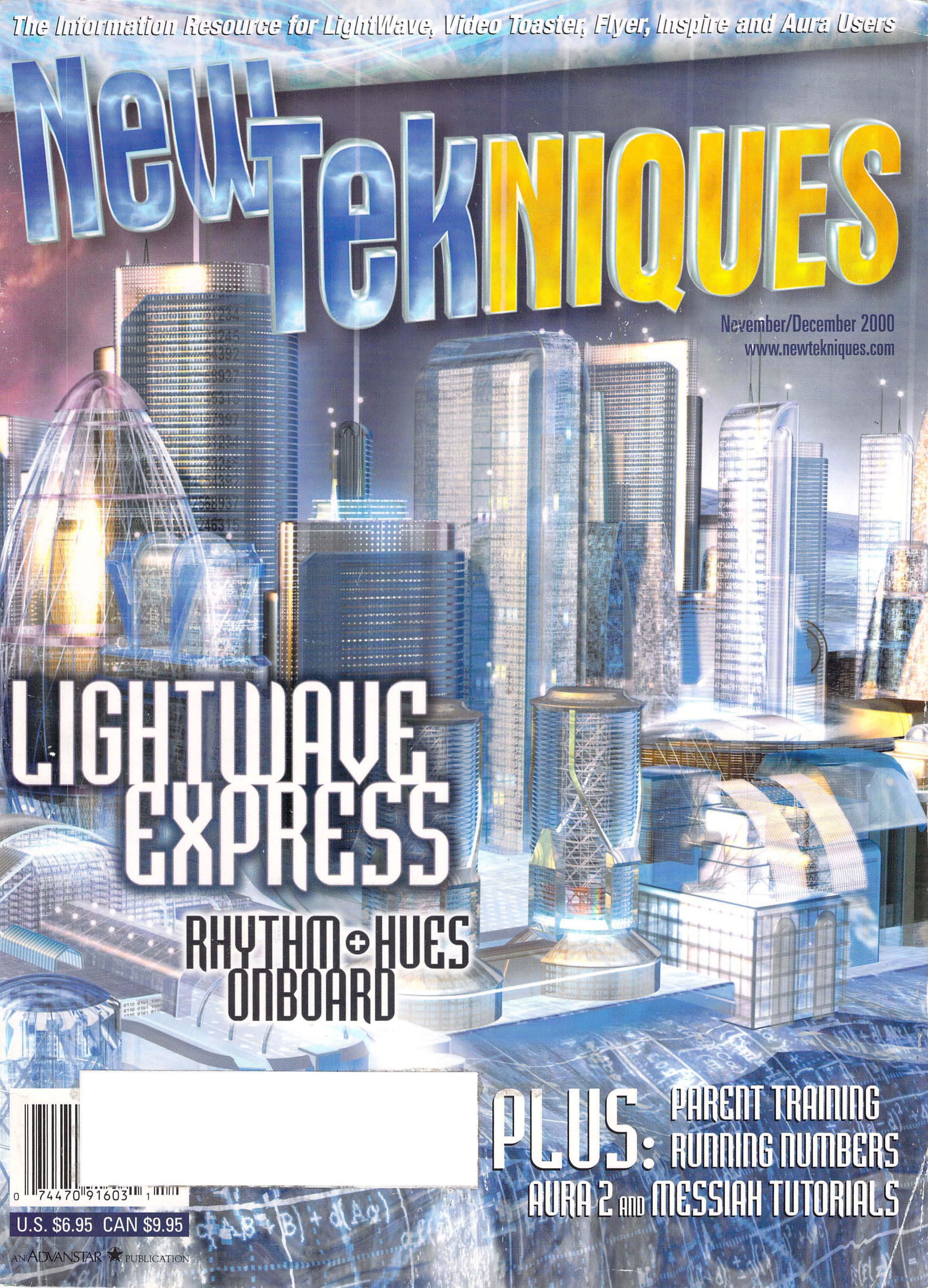
The Information Resource for LightWave, Video Toaster, Flyer, Inspire and Aura Users

NewTekNIQUES

November/December 2000
www.newtekniques.com



LIGHTWAVE EXPRESS

RHYTHM + HUES ONBOARD

PLUS: PARENT TRAINING
RUNNING NUMBERS
AURA 2 AND MESSIAH TUTORIALS

U.S. $6.95 CAN $9.95

AN ADVANSTAR PUBLICATION

Add real**people**™ to your scenes in an instant with RPC, a LightWave plug-in you've got to see to believe!

Point and click. That's how easy **RPC** makes it to add photorealistic content to your animation–content you can **view from 360 degrees**. Rendering times are virtually eliminated, because real**people**™ doesn't rely on heavy meshes. Each person is only one polygon when you render him or her. **Only one polygon!** And there are hundreds of real**people**™ to choose from in our growing libraries. Check them out for yourself. Go to our Web site and download a **free demo** now. **It'll change your life** as an animator forever.

www.RPCnet.com
real**people**™ content libraries for the RPC plug-in are developed by ArchVision

P.S. Check out real**trees**™ **while you're at it**

ArchVision℠ *by design*

Phone 606.252.0918. Toll-free 888.321.4406

Web #101

NewTekNIQUES

CONTENTS

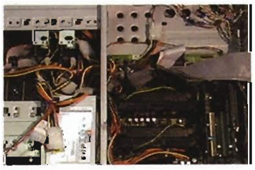
Vol. 4, No. 6, Nov./Dec. 2000
www.newtekniques.com

RHYTHM & HUES UNWRAPS THE BOX

An Ad for the New Millennium . . . Page 6
By Molly Dinkins & Dick De Jong

BUILDING YOUR OWN TOASTER WORKSTATION

Preparing for Video Toaster 2.0 . . . Page 38
By Blaine Holm



COLUMNS

Impressions:
Feel Sharp, Look Sharp ....p. 2
By Dick De Jong & Molly Dinkins

Visions:
The Battle of the Bots .... p. 3
Are You Ready to Rumble?
By Tim Jenison

Products:
New & Retooled .... p. 4
Flicker, Toastacube, ZBrush, RealWave, and more
By Jim Cullers

Aura Essentials:
The Cross Key to Success ....p. 14
Exploring Aura 2's New Features
By Steve Bowie

Toast Master/Flying High:
Creating Compelling Commercials ....p. 18
Bohus Knows Diddley
By Bohus Blahut

Plugged In:
Attending the Master Class ....p. 22
Save-o-matic to the Rescue
By Bob Hood

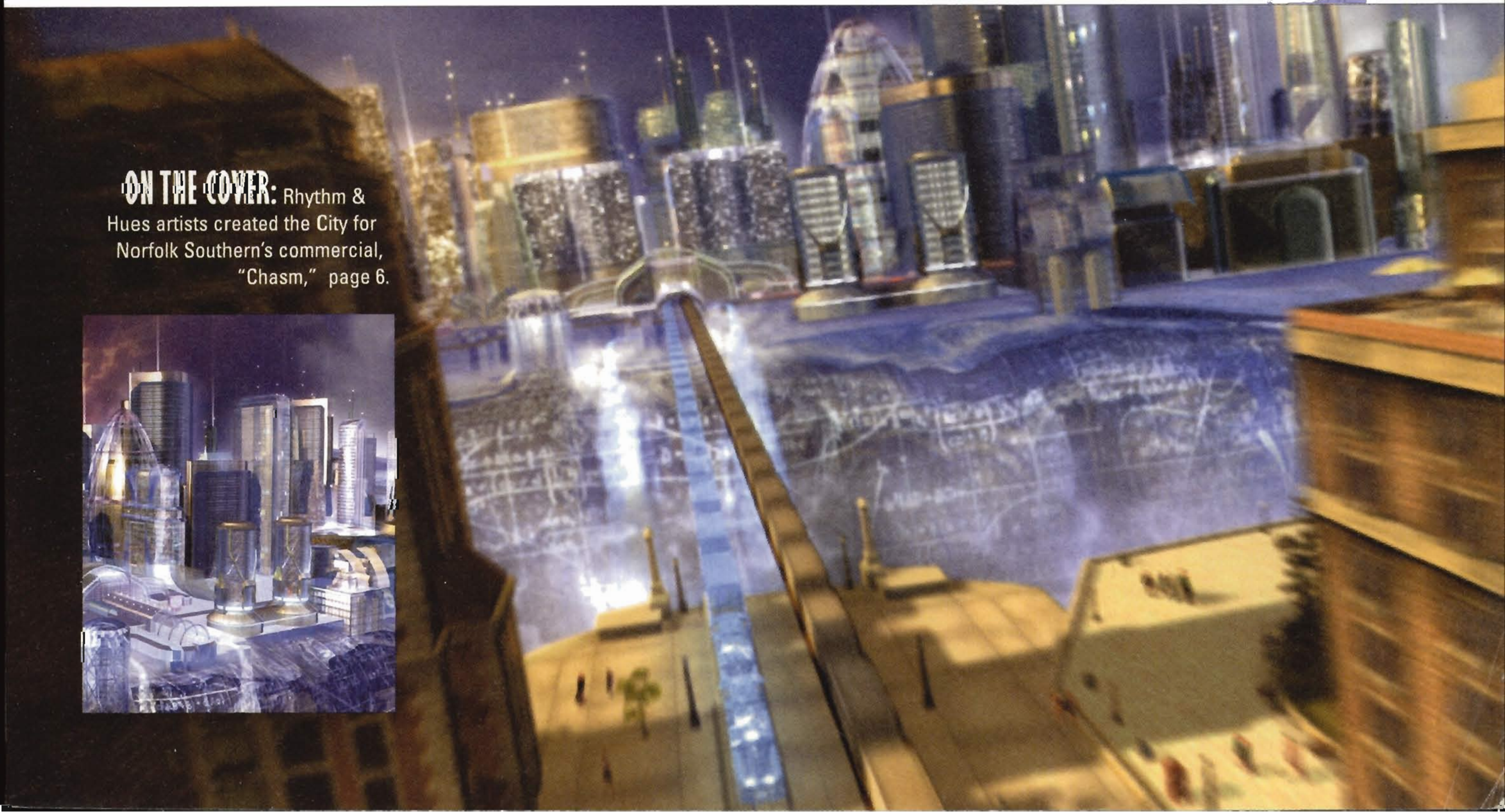
Mojo:
Career Fear ....p. 48
By Mojo

TUTORIALS

Matrix Graffiti .... p. 10
The Cascading Numbers Effect
By Brad Gordon

Meet the Beetle .... p. 24
Parenting in LW [6]
by Jared Brookes

A Closer Look at Combining Effects ....p. 30
Building Hierarchies in project:messiah
Ron Griswold



ON THE COVER: Rhythm & Hues artists created the City for Norfolk Southern's commercial, "Chasm," page 6.

Impressions

A FEW WORDS FROM OUR EDITORS-IN CHIEF

by Dick De Jong
& Molly Dinkins

Look Sharp, Feel Sharp

Wazzzup! Wazzzup!

Commercials can pester us when they intrude in the middle of our favorite programs. They also can pleasure us with their virtuosity and imagination. While often mundane or asinine, commercials occasionally serve as bellwethers of our society and our economy with revealing thirty second vignettes that pierce through the hype of the business world or the crust of our culture.

Take exhibit A: the SAP ad begins with a workman scraping letters off the window in an empty office. On closer inspection, we see the quickly vanishing name of a business. All that remains is *.com*. And then that disappears - two years of an e-business roller coaster encapsulated in fifteen seconds. Living in Austin, we have witnessed this financial cautionary tale play out on our front lawn.

We favor and savor the subtle ads - those you have to watch more than once to make sure you heard or saw what you thought you did. Recently, a commercial that caught our attention featured two women lovingly attending to a baby while waiting in a line. Only after a second and third viewing did we realize that standing in the customs line, the proud parents of this adopted child were lesbians. The ad provides a quiet, poignant snapshot of our trek into the 21st Century.

I Wish I were an Oscar...

With the content for a half-hour sitcom timing at under twenty minutes now, that leaves about a third of the broadcast day for commercials, PSA's, station ID's, etc. If a station runs 24/7, almost 1000 thirty second spots need to be filled *daily*. The market for producing commercials is enormous - as is the competition.

As Bohus says in his ToastMaster article, commercial production has been the bread and butter for Toaster studios since their inception. And LightWave has been dominating the television market and winning Clios (the Oscars for ads) for years.

But one of the problems with the early Toaster community was that they often were perceived as the low cost option. (In some minds, that meant "cheap" and amateurish.) And ad agency types do love the status of a plush Avid suite.

Even though the Flyer was broadcast quality, the new Toaster with its uncompressed D1 stands front and center in terms of video quality. With LightWave, Aura, Speed Razor, and the imminent and eminent Toaster 2 software, you have all the tools you need to create Clio quality commercials. Add in the two "C's," creativity and a plush couch for the client, and you should conquer the commercial market.

Witness Rhythm & Hues' spectacular ad - a stream of consciousness Norfolk Southern train ride bridging our past and our future. Complex and intriguing, the mini-movie demonstrates a stellar use of CG tools and old fashioned cinematography.

Takes A Licking And Keeps On Ticking

Speaking of sprucing up your edit suite to stimulate your business, many of you have been relying on your Flyers like those old Timex watches. With the advent of Toaster 2.0 around the next bend, you are running out of excuses not to upgrade. For those of you who are operating your new Toasters on last century's technology, the time is ripe to spruce up your computers. To assist you, Blaine Holm has written about building a new workstation. Part of being a professional means keeping your skills and your tools honed.

No Fear. You could be making the next *1984* in 2001.

NewTekniques

VOLUME 4 • NUMBER 5 • Published by ADVANSTAR Communications
www.newtekniques.com

EDITORS-IN-CHIEF	DICK DE JONG AND MOLLY DINKINS 512-459-5099 • editors@newtekniques.com
COLUMNISTS	BOB HOOD, BOHŪS BLAHUT, MOJO, TIM JENISON, STEVE BOWIE, CHUCK BAKER, JARED BROOKES
ONLINE	BOB KETCHUM, JARED BROOKES, JIM CULLERS
ART DIRECTOR	MICHAEL VIGGIANO

GROUP PUBLISHER	ERIC SCHWARTZ
EDITORIAL DIRECTOR	KEN MCGORRY
PRODUCTION MANAGER	MARIA KRISTINA ADAMEK

NEWTEKNIQUES
ONE PARK AVENUE, NEW YORK, N.Y. 10016
FAX: 212-951-6717

ADVERTISING SERVICES

ACCOUNT EXECUTIVE	MERLE MODEL 617-351-4604 • mmodel@advanstar.com
MARKETING/PROMOTIONS	MONICA MATHIS 212-951-6638

SERVICES

SUBSCRIPTIONS/CUSTOMER SERVICE	888-527-7008 or 714-513-8693 FAX: 218-723-9437
CURRENT AND BACK ISSUE ORDERS	800-598-6008 or 218-723-9180 FAX: 218-723-9146
CIRCULATION MANAGER	TRACY WHITE 218-723-9540
REPRINTS	MARY CLARK 800-822-6678 FAX: 541-686-5731
INTERNATIONAL LICENSING	TAMMY LILLO 218-723-9539 • tlilloAadvanstar.com

CHAIRMAN & CEO	ROBERT L. KRAKOFF
VICE CHAIRMAN	JAMES M. ALIC
EXECUTIVE VP BUSINESS DEVELOPMENT	SKIP FARBER
EXECUTIVE VICE PRESIDENTS	WILLIAM J. COOKE, ALEXANDER S. DEBARR, DR. MORRIS R. LEVITT
EXCECUTUVE VP INFO TECH, CALL CENTERS & TELCOM GROUPS	DANNY PHILIPS
VP FINANCE, CFO & SECRETARY	DAVID W. MONTGOMERY
VP, TREASURER, CONTROLLER	ADELE HARTWICK
VP & GENERAL COUNSEL	ERIC I. LISMAN
DIRECTOR OF OPERATIONS	MICHAEL T. WELDON
GROUP CONTROLLER	COLETTE O'DONNELL

AN ADVANSTAR PUBLICATION

©2000by Advanstar Communications. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical including by photocopy, recording or information storage and retrieval system, without permission in writing from the publisher. Authorization to photocopy items for internal or personal use is granted by Advanstar Communications for libraries and those registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Phone: 978-750-8400. Fax: 978-750-4470; call for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. For those not registered with the CCC, send permission request in writing to Permissions Dept., Advanstar Communications, Inc. 7500 Old Oak Blvd., Cleveland, OH 44130, or fax to (440) 891-2740.

NEWTEKNIQUES is an independent publication of Advanstar Communications. LightWave 3D, Inspire 3D, Aura, Video Toaster, and Video Toaster Flyer are registered trademarks of NewTek, Inc. Amiga is a registered trademark of Amiga International Gmbh.

Printed in the U.S.A.

NewTekniques online

TEKTICKER Keeps on Ticking

www.newtekniques.com/TekTicker

The popular TekTicker is back with news items and links about a wide range of topics. Now written by Jim Cullers, check TekTicker out daily. Jim also has added video interviews from LightWave luminaries.

NEW ART GALLERY

www.newtekniques.com/ArtGallery/

The NewTekniques Art Gallery continues to collect work from artists from around the globe - from Seoul to Sweden, Poland to Queensland.

"Thexder 3D" by Tom Winnicki.

COLUMNS

LightWave Fundamentals: "Volumetric Lighting" - Jared Brookes recreates a favorite, the light through the ventilation fan shot.

The Idea Factory: Bob Ketchum offers more tips for the independent videographer.

Aura Essentials: Steve Bowie continues to update his Aura Online department, filling it with tutorials, downloads, and Aura goodies.

Hear Ye! Hear Ye! - Bob Ketchum, the Aristocrat of All Things Audio, shows us how to elevate our audio to the upper class.

newtekniques.com

Visions

FROM THE PAST, FOR THE PRESENT, AND INTO THE FUTURE

THE BATTLE OF THE BOTS

by
Tim Jenison

Are You Ready to Rumble?

I'm not a big sports fan. I never watch sports on TV - with one exception. Battlebots™. Not only do I watch it, I am a contestant!

In Battlebots, two robots go into a special arena and fight to the death. Combatants are scored on a point system. Winners go on to fight the next rounds until a champion is declared for each weight class, ranging from lightweight to super heavyweight. The Arena itself is full of dangerous obstacles like air-powered sledgehammers and buzz saws that rise out of the floor.

I'm writing this on my Palm VII™ on the way back from Las Vegas, where NewTek's latest robot, "Hammerhead" has just won the middleweight Robot Rumble. In the Rumble, all the 'bots of a particular weight class go in the arena together. "Hammerhead" was conceived by Video Toaster hardware engineer, Charles Steinkuehler. If you remember the "Revolution" video, Charles was the nerdy guy in the lab coat and thick glasses. Charles and I constructed the 'bot in NewTek's secret robot lab.

As a sport, the cool thing about Battlebots is that, despite the flying body parts and hydraulic bloodletting, nobody gets hurt. And you win by designing a better machine than your opponent's. Brainpower wins! Unlike a chess tournament, however, the fans go absolutely nuts.

BattleBots is the top rated show on Comedy Central™, and the brainchild of Video Toaster user Trey Roski. Trey and I go way back to when he was the radio control driver of NewTek-sponsored "La Machine" in the Robot Wars™ competition. Trey used his Toaster to edit Robot Wars footage into cool demo reels. Somewhere along the way he realized that he was looking at pure potential. Robot fighting makes spectacular TV! It's great to see nice guys like Trey succeed. And he remains in control of the whole project.

In the taxi on the way to the Vegas airport, the driver was asking me a lot of questions about Battlebots. "Is it open to the public?" (Yes, but it was sold out.) "Can kids get in?" (Yes.) "Can you bet on the robots?" (No.) "Which airline are you flying?" (Continental.)

The point is Joe Sixpack cab driver really wanted to see fighting robots.

Let me make a prediction: Battlebots is going to be big. And as the robots continue to evolve (survival of the fittest) this sport will become more and more entertaining, even to people who hate sports.

You can bet on it.

New & Retooled

DOSCH TEXTURES

Dosch Design, the specialist for high-end computer graphics add-ons has just released three bundles of its most popular Dosch Texture software. The high-resolution and seamlessly tileable multi-layer textures (which contain all relevant shader maps for the material properties like color, depth of texture, reflection, surface structure etc.) give surfaces a very realistic appearance.

Bundle #1 $159.00 - "**Character Design**" contains 3 products: Animal & Creature Eyes, Human Eyes, and Skin. At the heart of this package is a wealth of different eye-styles for humans and animals & creatures. Eyes that truly look alive, look piercing, look mysterious -just as you wish. Along with the elaborate skin texture options these 3 CDs take care of the trickiest and most crucial facets of character design.

Bundle #2 $159.00 - "**Architecture & Design**" contains 3 products: Construction Materials, Industrial-Design, and Reflection-Maps. Construction Materials covers stone & marble, wood, concrete, tiles, brick - the whole bit.

Bundle #3 $479.00 - "**Professional**" contains 10 products including all of the above plus Plants & Nature: multitude of plant leaves, tree bark, flower petals, soil & dirt textures. Rust & Metal: plain or painted metal, patina, rust and many more looks of metals. Stone & Concrete: more features/options than in Construction Materials. And Special-Effects.

These 10 **Dosch Textures** CDs cover the vast majority of needs that will come up on a daily basis. www.doschdesign.com

ZBRUSH

ZBrush is a painting application powered by a 3D sculpting rendering engine that lets you paint an image with depth and edit 3D Lights and Materials - in real time! Push and pull your image as if it were clay - in real time! Sculpt 3D objects and texture them - in real time! Grab or paint complex Alpha and Textures and apply them to your object - in real time!

You can export and import image formats such as .PSD, .BMP and .PICT, as well as 3D geometry formats such as .OBJ and .DXF. Programs like LightWave, Photoshop, Maya, Softimagel3D and 3D Studio Max are supported. **ZBrush** is, in many ways, an artist's dream.

ZBrush version 1.03 is now available at a special introductory price of $292.50 (50% off) for a limited period of time. ZBrush is currently available for Windows only, although a Mac Demo version is available at no charge. www.pixologic.com

REALWAVE

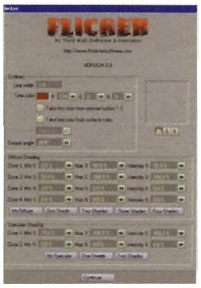
Now you will be able to generate your own sea waves on a mesh and, most incredibly, your objects will float in a realistic manner. **RealWave** is a physically-based system which is able to track the propagation of gravitational waves on a mesh, simulating the surface of the sea.

Also **RealWave** calculates the buoyancy forces on the objects and their natural motion. **RealWave** runs as a Windows NT standalone program with an intuitive real-time OpenGL display. Features include: Multi-resolution mesh, damping area, adaptive path, foam texture mask, standard [Particle] emitter, object [particle] emitter, surface [particle] emitter, and fractal wave displacement.

RealWave

RealWave is available for both Intel and DEC Alpha platforms. RealWave supports the following, LightWave 3D, 3D Studio MAX, Softimagel3D and Maya. RealWave costs $495 for one user. The price of the **RealWave/RealFlow** bundle is $925. www.nextlimit.com

FLICKER

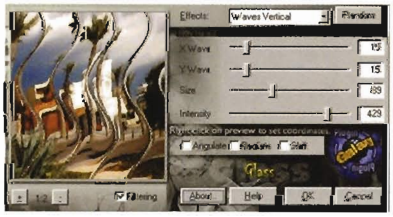


Flicker is a Macromedia Flash renderer for LightWave that outputs Flash .swf files. The exported files can be used directly on the web or imported into an existing Flash project.

The plugin currently exports outlines and solid filled shapes and allows the use of different export settings for each object in the scene. For the outlines, color and line width can be configured, and optionally they can be different for each surface in the object. For the solid fills, both diffuse and specular shading are exported with up to four and two regions respectively. The next major release plans to incorporate shadows and gradient fills. www.thirdwish-software.com

PLUGIN GALAXY FOR PHOTOSHOP

Plugin Galaxy provides frequently needed functions like transparency manipulation, blurring, texture and pattern generation, noise creation, mirroring and warping. It also includes amazing metal, chrome, neon, pop art, glass, rainbow, sunshine and star effects as well as feedbacks, grids and zooming. Additionally you can enhance, colorize, add edges to your photos or even encrypt them.


Effects: Waves Vertical
X Wave 15
Y Wave 15
Size 89
Intensity 429
Right-click on preview to set coordinates.

The 129 basic effects of **Plugin Galaxy** can be adapted with the help of sliders, check boxes, color dialogs, color pickers and preview coordinates. **Plugin Galaxy** is available in Macintosh and Windows versions. **Plugin Galaxy** sells for $49.95 and can be purchased at http://thepluginsite.com/products/plugingalaxy/.

OZONE 3D

E-on software's **Ozone 3D** is an amazing plug-in for LightWave 3D, designed to let users easily add convincing atmospheric effects to their scenes. Actually, Ozone 3D is comprised of 3 different plug-ins: an Image filter plug-in, a Pixel filter plug-in and a Shader plug-in.

Ozone 3D's incredibly elaborate set of algorithms model the behavior of our planet's real atmosphere. These algorithms can produce many kinds of atmospheric situations.

Ozone 3D ships with an extensive set of over 100 predefined atmospheres, including bright daytime, bad weather, sunrise, sunset, nighttime plus a variety of "less realistic" effects!

Shave & a Haircut and Shave Extreme

Joe Alter has added new features to his popular hair plugin, Shave & a Haircut. Shave now accepts sequenced maps for animatable attributes like hair length. This new feature adds a whole new dimension to hair animation and opens up a wide range of applications.

Several new tools have been added for combing and cutting hair including "comb away from camera," "cycle select," and "cut select." These simple new tools make modeling just about any hairstyle in minutes a real no-brainer.

New controls in Layout let you set hair characteristics at render time on a per instance basis. Additionally with LightWave 6.5, support exists for receiving radiosity, as well as full support of radiosity/reflection/refraction via a new "geometry export" feature. A new "geometry mover" plugin will apply fast dynamics to the exported geometry.

Joe Alter's new program, Shave Extreme will add new high-end features (and complexity) to the original Shave program. Targeted for major Hollywood studios (with Renderman plugins and previews), the software will still be compatible with LightWave. The plugin runs under Windows and IRIX.

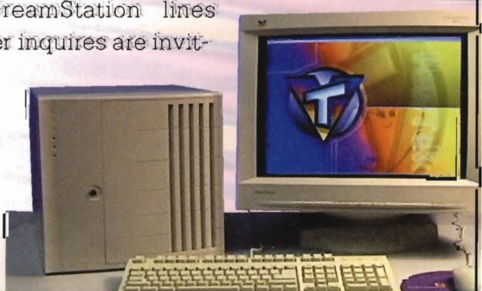
Shave Extreme's new "instancing" feature grows geometry (chains, leaves, grass, feathers - whatever) on an object instead of hair, while Shave's dynamics still will move the geometry. For price and availability, check www.joealter.com.

TOASTACUBE

Video Hardware Services, LLC is pleased to announce the newest workstation in its line of custom turnkey solutions for the Video Toaster. The **ToastaCube** offers a new level of functionality and performance.

You can choose from several versions with different hard drive configurations, processors, and video cards. The case allows up to 13 drives and measures only 13.75H x 13.5W x 18D. In addition, you'll receive a Restore CD and Custom Training Video made specifically for your Video Hardware turnkey workstation.

The **ToastaCube** joins the popular Enterpriser, PowerHouse, and DreamStation lines already shipping. Dealer inquires are invited. Contact or call Blaine at 603-627-5337 for more information.



FLIGHT OF FANCY

The supercharged ad transports you on a stream of consciousness flight - soaring, sheering, veering - over a misty abyss between a mortar metropolis and a crystal city, then radiating in and out of the eye of an e-male. The ride sweeps over the sums-cum-concrete and swoops down to face off the company locomotive - blowing off a cute exec - then airborne again back to the future. Fading in and out of today and the tomorrow, freight trains - one diesel powered, the other digitally propelled - crisscross the chasm merging the two worlds. Finally, a blue-gray, ghostly Norfolk Southern Express blazoned with a rearing stallion hurtles past at a velocity powerful enough to siphon potatoes off their couches and fling them into the silicon century. The visceral, visual commercial leaves you breathless and demanding a return trip.

RHYTHM + HUES UNWRAPS THE BOX

AN AD FOR THE NEW MILLENNIUM

by Molly Dinkins & Dick De Jong

"The best jobs of all are jobs like this one - where you can pretend for a moment that you are creating a thirty second film, where you throw yourself into the project with passion. This was a lot of hard work and it was a blast."

John-Mark Austin, CG Director, speaking for himself and his LightWave team at Rhythm & Hues, was understandably enthusiastic about the identity spot, *Chasm*, created for the railway company, Norfolk Southern. J. Walter Thompson/Atlanta selected SunSpots' Academy Award nominee (for visual effects on *Blade Runner*), David Dryer to produce this temporal transportation tribute.

Continues Austin, "Norfolk Southern was very interested in positioning their company for the new millennium, making sure that people understand that they are a forward looking company, serving Internet providers as well as traditional businesses. The concept was two trains from two different worlds - a digital world and a brick and mortar world - exchanging commerce with one another across a chasm. There's no visible bridge, no means of transportation across it."

The Box Score

Since Rhythm & Hues won a Clio Award for best computer animation for Norfolk Southern's "Shippers" in 1990, the studio was a definite contender for NS's latest campaign. Located in Los Angeles, the studio has had a busy year working on twenty-three films and an assortment of commercials. The company usually employs proprietary software for their CG work, but about three years ago, they established an entity called the Black Box, (or Box, for short), a group of LightWave artists led by Austin, who concentrates on commercials. (See the sidebar: Inside the Box.)

Ian Dawson, Rhythm & Hues' Head of Production, Commercial CGI, says that this prestigious Norfolk Southern ad "normally would be a studio job. But being so busy with film work, we gave the Box the opportunity to expand and take on the kind of job they have always been wanting to do and *easily can do*. It's just the matter of having the opportunity."

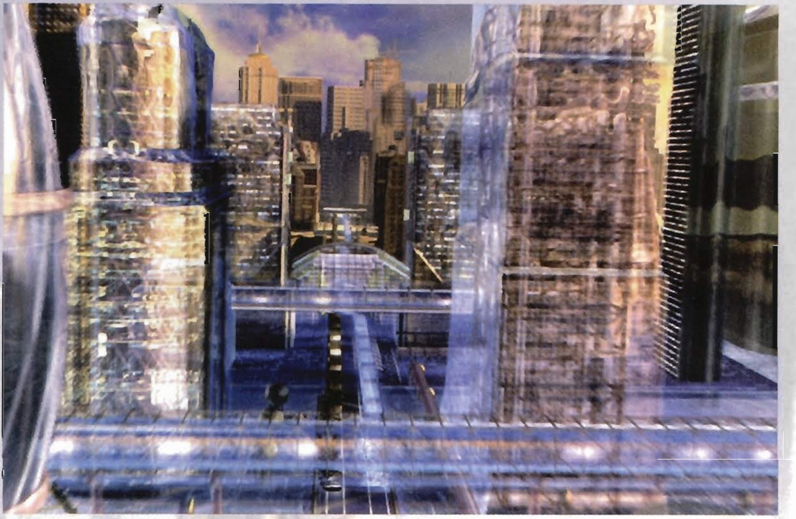
All Aboard

When Director Dryer arrived at the Box, Austin explains, "he showed us a videotape that he had presented to J. Walter Thompson, which included his storyboards with reference artwork cut in. It gave us a pretty strong idea of what his vision was.

"Deborah Austin (Producer) and myself," continues Austin, "make decisions about what our staffing, our hardware, and our technical needs are going to be; and we allocate the crew from there." Unlike most of the Box's commercial projects, this ad afforded a longer timeline, almost three months. As usual, Austin hired freelance artists, as they were needed. At the peak, seven animators were employed.

Andy Wilkoff, Digital Artist, was brought on board fresh from building the *X-Men* Statue of Liberty at Digital Domain. He led the Box's quest for the perfect train to bridge the gap between the two worlds. "It was built from reference models," says Austin, "ranging from an HO scale to a five foot long practical model that had been used for other Norfolk Southern ads. Andy went over that model with calipers and measured every aspect of it. We had tons of reference materials that detail these trains down to the last rivet."

"Norfolk Southern was very precise about what they wanted," says Digital Artist Andrew Weiler. Austin adds, "We had to pass the muster with their railroad engineers! The detailing is unbelievable."



Building a Rift

The composition of the architectural yin and yang began with Gary Montalbano, a freelance designer, who provided the silhouettes and the shapes of the two cities. Says Austin, "Our crew was responsible for fleshing them out and interpreting those designs into the final look. Andrew (Weiler) was very instrumental in developing the digital city look."

Weiler expounds, "Originally, they wanted to use the *Matrix* to represent the world; but we wanted to take it in a different direction because that's already been done. We tried to make it a little more concrete, a place you would live in." For reference material on the design of the digital buildings, they studied lots of architecture particularly the Japanese and the work of Frank Gehry (the

"It's pretty amazing the quality of work we can produce with a copy of LightWave and Digital Fusion for compositing," remarks Tatosky. (For the ad, the crew opted to use LightWave 5.7.)

"We all have used LightWave for years," Austin says about his team. "There are a variety of reasons why we love it and hate it. I think it has one of the best renderers on the planet. You can achieve photorealistic looks very quickly.

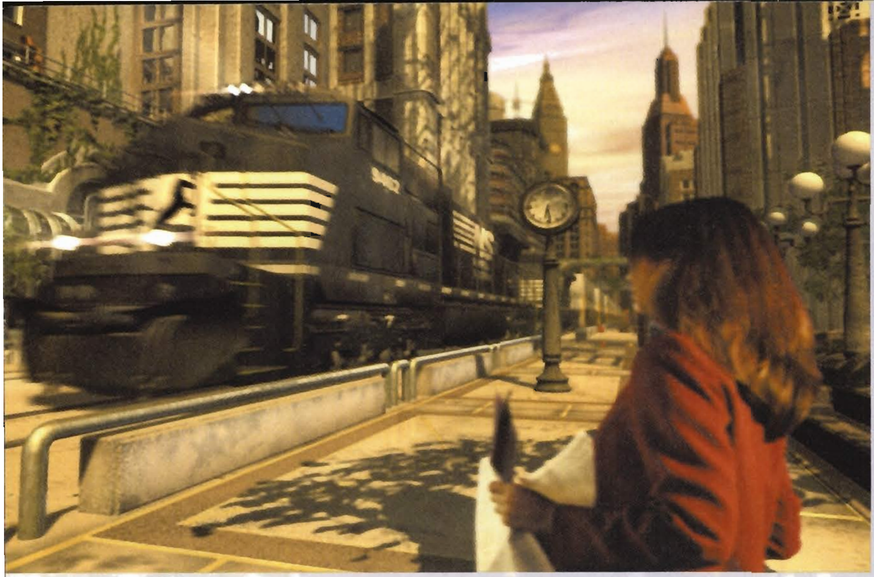
"Norfolk Southern is a great example. We wouldn't call it a photoreal project, but a hyper-real project. Light Wave's tool set worked very well.

"Also LightWave is a self-contained unit for a generalist pipeline. You are able to go from modeling to texturing to rendering in the same high quality package." "If a digital artist comes to work with us, they can get up and running on LightWave pretty quickly," Weiler adds. Austin continues, "We would not be able to use freelance talent effectively if we worked with proprietary software that we had to educate artists on."

In the ad, every shot was stratified with a minimum of thirty layers. For example, the chasm contained separate layers for "the foreground waterfalls, the background waterfalls, the background chasm, the foreground chasm, the midground chasm," Hayes enumerates, "and that's just for the smoke effects." All the layers were seamlessly laminated in Digital Fusion, the Box's compositing program of choice.

"Digital Fusion was absolutely integral to this project," says Austin. "I cannot say enough good things about that package and the cooperation and assistance that we have received from the guys at Eyeon."

To achieve all those smoke and vapor layers, the Box used Impulse's Illusion, a 2D particle effects system. For lighting on the digital city, "we used a lot of fresnel plug-ins to create transparency blast effects," says Weiler.



architect of the Guggenheim Museum in Bilbao, Spain).

Continues Austin, "There's a glass look to the digital world. Our reinterpretation of the digital element was to include more mathematical symbols and representations." Outside and in, the buildings seem to be teeming with tumbling trigonometry text. On the virtual side of the chasm, along the face, formulae fall instead of water.

Across the divide, Digital Artists, Brad Hayes and Brian Tatosky worked on erecting the brick and mortar city. Hayes describes, "We were interested in combining cutting edge avant-garde architecture with a very Art Deco, 30's style of Manhattan. We intermixed varied looks including pre-Raphaelite color schemes and the color palettes in *Dinatopia*, (the children's book series) from James Gurney."

The imagery is intensely dense and Austin admits that occasionally the artists were carried away by the lure of fabricating a virtual Gotham. If you examine the image of the train station, you will see ivy vines climbing the wall. In the animation, the hands on the clock move, even speeding up as the train rockets out of the station.

"There was a common creativity in the ether," describes Dryer. "We all fell into the creative lunacy of not only wanting to build these buildings and objects, but wanting to live in them."

"You don't really notice those finishing touches when you first see the spot, but you would feel their absence," Austin adds. "It helps to sell the sense that this is a real place where people live and work."

One example of their minutiae madness that you can't see - the artists put condiments on the shelf, in the diner, in the building, *behind* the train. The final environment numbered about two and a half million polygons.

To control scene management and render times, Tatosky says, "every building had three different versions, hi rez, low rez and distant rez." Hayes adds, "The key is putting in only enough - the suggestion of detail - and letting the viewer's mind fill in the rest."

Shooting Match

"Basically with the storyboards and the art design," explains Hayes, "we started doing camera choreo tests."

Tatosky continues, "It worked out really well on this project because we were able to sit down with David

INSIDE THE BOX

Rhythm & Hues, one of the venerable visual effects houses in California is best known for its talking animals (and it's Academy Award for Best Visual Effects for *Babe*). In 1997, the Black Box was germinated inside the company.

John-Mark Austin, the head of the operation, says, "The Black Box was originally developed to be a creative playpen for directors at the company. Originally, we were largely a research and development group working out new styles, new technical approaches, and new looks for the company that they could market and use in on-going projects.

"It became a natural extension, when the jobs would be awarded, for us to implement the R & D we had already done. So we gradually became a production entity." Today, the Box keeps constantly busy churning out visual effects for commercials. Probably their best known work are the two CG ads for the Mazda *Cool World* Campaign, with those X'ers driving around in a city of twisting, turning boxes.

"Actually one of the real strengths of the Box is that when people come to us, they are not just getting an effects team, they are getting a design team as well," Brad Hayes says. "The projects we do are usually very design intensive. And the looks that we do, we really try to push the envelope as far as we can."

The tight schedules common with producing commercials demand that a team can ramp up quickly and deliver. "The Box operates on a high performance team concept," Austin avers. That means that people he hires have to possess the technical and artistic skills to do quality work. But they also need to practice "the team ideals required to critique their own and their teammate's work without destroying the team or breaking down the trust between the artists."

To succeed in this collaborative biosphere, Austin searches for generalists. "We don't expect expertise in one field, we expect it in all the areas. It's not enough to be a great modeler or a great lighter. That makes it really challenging for us to find the kind of talent we need."

"You have to have an understanding of the whole process," Andrew Weiler injects. "Otherwise, if you have to see a composite of your shot and you have no under-standing of compositing, you are blocking the whole pipeline."

"One of the defining aspects of the Box is that we are set up to be fast and responsive to change," Austin concludes. "I think you need to work a lot smarter when you only have two or three weeks to deliver a project. You must work cohesively as a team." NT and design all the shots as previz, so we could begin working on them at the same time he was shooting."

"We arrived on the set with full previsualizations in hand," Austin says, "so they literally cross-dissolved the live camera shots with our previz stuff, in order to frame the shots and mock up how they would work. The blue screens were huge, probably the largest I have shot, just enormous because people were covering large distances. They needed to be keyable across the entire way.

"David directed all the live action elements that went into the spot. Part of the look and feel of this spot was integrating people into these worlds and making them feel like places that are actually inhabited.

"We had two days to shoot all the blue screen elements - everything from bricklayers working on a brick wall, to multiple angles of crowd scenes to various crane shots. We digitized them and put them into the environment."

Caboose

With the trains on board, the CG construction complete, and the shooting wrapped, the compositors at the Box perfected the digital dioramas to fittingly represent the marketing mantra: "Norfolk Southern, moving the goods that move the economy."

"One of the shots I love," says Austin, "is the first scene, the amazing density of the structures that echo the density of the digital world."

"Live action people were shot on the set riding up the girder and tracked into the shot," Weiler continues. If you look closely at the building being constructed, a welder's arc sparks on one of the lower floors. The welder was a practical shot composited into the CG building with matching digital lighting effects added.

And a city isn't a city without birds and bird ordure. "The pigeons on the ground are live-action," Austin recounts. "We made some interesting discoveries about pigeons and blue screens: they don't like blue. We have lots of footage of pigeons standing all the way around the blue screen, but not ever venturing on to it. Our daily war cry was 'more bird crap!' We have barrels full of digital bird crap."

The artists conclude in a Greek chorus: "every time you watch this spot, you will see something different. The level of detail is just ludicrous."

"Absurd."

"Wonderful."

MARLIN STUDIOS

THE COMPETITIVE EDGE . . .
Seamless & Clip Map Texture Libraries
HIGH QUALITY HIGH RESOLUTION

Virtual Trees & Foliage Clip Maps | Amazing Sci-Fi Textures | Seamless Textures You Can Really Use | Seamless Textures 2 Rustic Exterior Surfaces

ENTIRE COLLECTION INCLUDES:
- Over 3,800 textures & bump maps
- Over 670 backgrounds
- 7 Viewpoint models

Seamless Textures 3 Ultimate Interior Surfaces | Seamless Textures 4 Classic Stonework | Seamless Textures 5 Downtown Surfaces & Signs | Seamless Textures 6 Classic Ornament by Eni Oken

NEW RELEASES!
- SEAMLESS 7: Great Textures of Europe
- SEAMLESS 8: Metals

SAVE $$ ON MULTI PACK PRICING
Platinum, Gold & Silver Packs
SEE WEBSITE FOR DETAILS
http://www.marlinstudios.com 817-860-0596

Web #102

Tutorial

A STEP-BY-STEP GUIDE TO CREATING MORE PROFESSIONAL PRODUCTIONS

this article has additional
Online Content
www.newtekniques.com/bonus

"MATRIX" GRAFFITI

Up Against the Wall

by
Brad Gordon

Do you remember the scene at the end of *The Matrix* where Neo sees the actual computer code cascading down the walls and agents? This tutorial will show you how to make a basic "Matrix" room. You then can apply the technique to other objects and even recreate "The Matrix" corridor scene.

Let's start by making the graphics required. You need to create at least two images for this scene to work. Of course the more images you make, the less chance your room will look tiled.

1. The images I created are simple (Figures 1 and 2). You may want to make yours far more complex since complex, high-resolution images produce a better look.

I used Photoshop. Whatever your favorite paint program, start your design with at least a 1000 x 1000 pixel canvas. Divide the image into 8 evenly spaced columns and rows.

Pick a sans serif font (such as Arial) to create the alphanumeric image. If you use only reversible letters, you don't have to make changes to your images for left and right walls. The reversible letters are A, H, I, M, O, T, U, V, W, X, and Y. Use the Zero (0) instead of the upper-case O and the lower-case L for the number 1. You can even throw in a non-reversible letter like Z or R for a futuristic look but use these sparingly and put the forward and reverse Z, R, or whatever you choose on the same image.

(Note: You are creating a cascading effect with your alphanumeric image so you will have to shade your numbers and letters in a vertical pattern from light to dark.)

For the Streaks image, (Figure 2), the secret is to keep the actual number of streaks low. Otherwise you'll have lines flying all over the place in your final animation.

(Note: For simplicity in this tutorial, we will reuse the alphanumeric image on three layers. See the advanced section, for suggestions on upgrading the effect.)

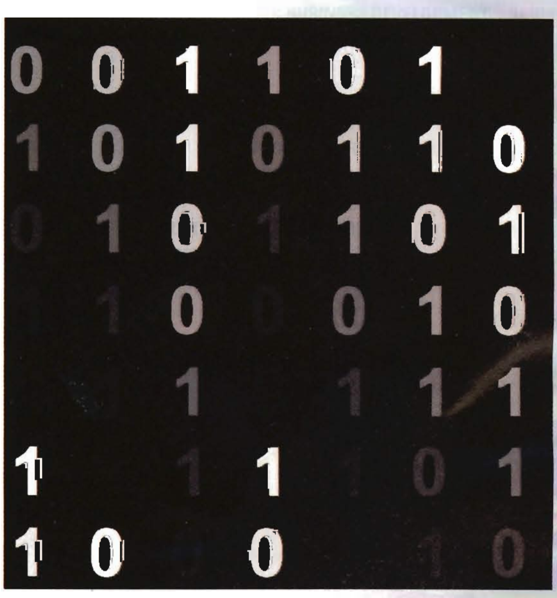


Figure 1

2. Open Modeler (I used LightWave 5.6) and select the [Box] tool from the [Objects] tab. Type [n] to call up the numeric requester and click on the [Reset] button, which will define a perfect 1-meter cube. In the [Z] fields, type 0 and hit [Return]. Click [OK] to accept these values and press [Enter] to make this box. You should see a 1-meter wide by 1-meter tall square polygon in Layer 1.

Keep the [Box] tool selected and pick a second layer. Press [Enter]. This will create a second square polygon. Do this until you have four layers with a square polygon in each layer.

Go to the first layer and type [q] for the [Change Surface] panel. Create a new surface called "MatrixBright" and apply the surface.

In the second layer type [q] and create a new surface called "Matrix Medium." In the third layer create and apply a new surface called "MatrixDark." In the fourth layer create and apply a new surface called "MatrixHStreaks."

3. Go back to the second layer and click the [Modify] tab at the top of the Modeler window. Click [Move] and type [n] to call up the numeric panel. Input the following: X 0 m, Y 0 m, and Z 7.5 mm. Click [OK] to apply this movement.

Go to the third layer and type [n]. This time change the [Z] field to "15 mm." Click [OK]. In the fourth layer type [n] again and change the [Z] field to "10 mm." Click [OK].

While still in Layer 4, click the [Copy] button at the bottom of the Modeler Window or type [c] to copy this polygon. Select Layer 1 and click the [Paste] button or [v] to paste this polygon in Layer 1. Also copy Layers 2 and 3 to Layer 1.

You should now have 4 square polygons in Layer 1, each with a different surface. To check this, click on the [Polygon] button at the bottom of the Modeler Window and type [w] to call up the [Polygon Statistics] panel. Click and hold the popup menu and you should be able to scroll through the four surfaces you created. Save this object as "MatrixWall.lwo" and enter Layout.

4. In Layout, load the "Matrix Wall.lwo" object and open the [Surfaces] panel. Select the "MatrixBright" surface and input these settings:

Surface Color R 200, G 230, B 200 (You can input the surface color data by Shift-Clicking the [Surface Color] button.)

Set Luminosity to 200 and Transparency to 100 (We are using a 100 percent transparency setting because I want the object to be 100 percent transparent except for where I place my numbers and streaks. We will be using different [Texture Opacity] settings later on and this will make our job a lot easier.)

Check Double Sided.

Click the [T] button next to the Transparency value. Select "Planar Image Map" as the Texture Type. Load your alphanumeric image into the Texture Image pop up menu.

Check Negative Image. (For this tutorial I chose negative versions of my images because they are easier to create and view. Feel free to create positive images for your work.)

Texture Size is X 25 cm, Y 25 cm, and Z 25 cm. Texture Velocity is X 0 m, Y -4 mm, and Z 0. (We're using a negative [Y] velocity to give us the famous cascading effect.)

Set the Texture Axis to Z and Click the [Use Texture] button.

Click the [Option] button in the lower portion of the [Samples] section and set Sample Size to .25 m and Sample Type to Cube.

Figure 1

Click on the [Render] button to render a sample of the surface. Your numbers should be visible and the rest of the cube completely transparent. Click the [Use Texture] button to accept these settings.

5. Select the "MatrixMedium" surface and copy the attributes of the "MatrixBright" surface by clicking on the rendered surface sample. Choose [Yes] to copy the surface attributes.

Click the [T] button next to Transparency and enter these settings:

Texture Opacity 35 percent (We are beginning to use those different [Texture Opacity] settings that I mentioned earlier. If you slide the [Transparency] value of this surface to 0 percent, you'll see a very different texture when you render a sample of the surface.)

For Texture Velocity, X: 0, Y -6 mm, and Z 0. (I'm off-setting the speed of our velocity by 2 mm in order to break up the tiling effect you get when working with images like these.)

For Texture Center, X 12.5 cm, Y 5 cm, and Z 0.

Click on the [Use Texture] button to keep this texture.

6. Select the "MatrixDark" surface and copy the attributes of the rendered "MatrixBright" surface sample.

Click the [T] button next to the Transparency value and set Texture Opacity to 15. Texture Velocity is X 0, Y -8 mm, and Z 0. The values for Texture

Center are X -12.5 cm, Y 10 cm, and Z 0.

Click the [Use Texture] button.

7. Select the "MatrixHStreaks" surface and set Surface Color to R 210, G 245, and B 210. Luminosity 200, Transparency 100.

Click the [T] button next to the Transparency value and enter Texture Type as Planer Image Map and Texture Opacity as 50.

For Texture Image, load your Streaks image into the pop up menu. Texture Size is X 1 m, Y 50 cm, and Z 1 m. Texture Axis is Z. Texture Velocity is X 12 cm, Y 0, and Z 0.

Again, check Negative Image.

Click on the [Add New Texture] and apply the following settings: Texture Type is Fractal Noise and Texture Opacity is 15. Texture Size is X 25 cm, Y 25 cm, and Z 25 cm. Texture Velocity is X 0, Y 0, and Z 1 mm.

8. In the Objects Panel make two clones of the MatrixWall.lwo. Click [OK]. Select the (now) Matrix Wall.lwo(1) object and click on the [Rotate] button. Type [n] and change (H)eading to -90.

Click the [Move] button and then [n] and make X -50 cm, Y 0, and Z -50 cm. Create a Keyframe at 0 for this object.

Select the MatrixWall.lwo(3) object and change its Heading to 90. Move it to X 50 cm, Y 0, and Z -50 cm. Create a Keyframe at 0 for this object. If you want, you also can create a ceiling and floor object.

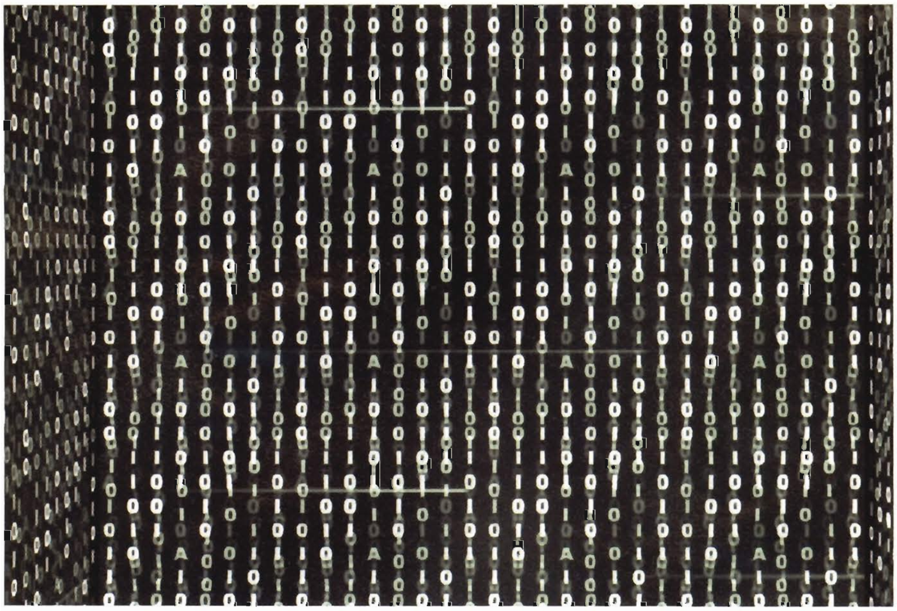


Figure 3

9. Move the camera on the Z axis to -1.5 m. Make a test render using Medium Antialiasing and you should see something like Figure 3.

Now, to render an animation, I go to the [Camera] Panel and make Custom Size a Width of 320 and a Height of 240. And set Antialiasing to Low. If you have a Video Toaster NT, you may want to leave the settings on Video Resolution.

Click the rendering panel and input Render First Frame 1, Render Last Frame 120, Render Frame Step 1, Automatic Frame Step On.

Pick the animation type that you want to save and click [Render]. While this animation is rendering, read the advanced section to see how you can improve this object and its textures.

Advanced

To create a cooler Matrix room, make separate images for the "Matrix Medium" and "MatrixDark" surfaces. And up rez your graphics to 2000 by 2000 pixels, and 16 columns by 16 rows. (The alphanumeric graphic should be a multiple of two and contain at least 8 columns and 8 rows. Using the same number of columns and rows eases texture sizing.)

The Streaks graphic also should be very large and almost entirely black with two to four steaks spanning no more than one third of the screen.

Add a second "Streak" square polygon to MatrixWall.lwo. Call this surface "MatrixVStreaks." Remember to offset this polygon in the [Z] direction (try 2.5 mm). Create a second streak image with vertical streaks (or simply rotate the existing Streaks image and give it a new name). Map the image onto the surface and apply a velocity equal to the "MatrixHStreaks" Transparency Texture, but this time use the negative [Y] direction.

When trying to apply these textures to organic shapes, just model the front (or visible) side of the object. Create individual copies of this object for each of the surfaces and size these copies with the "MatrixBright" surface being the largest and the "MatrixDark" surface being the smallest. Now combine these objects so that the smaller copies fit inside the largest and save this new object. You may need to apply these Textures with a Spherical or Cylindrical Image Map.

Have fun experimenting and always remember where the nearest phone booth is.

Brad Gordon is the Animation Team Leader of USAF Graphics at the Pentagon. His email is gordonbj@erols.com.

LIGHTWAVE [6]

[It's Everywhere]

"With LightWave [6] I can model, apply complex UV mapping and create skeletons all in one place, and it's lightning fast for game development!"

Terrence Walker
WestWood Studios, Inc

"LightWave's intimate and flexible modeling tools helped us give life to the organic and complex world of Torment."

The Planescape: Torment Team
Black Isle Studios/Interplay

"With LightWave 3D we can model, animate, and light, all very quickly. We use a lot of LightWave at Digital Domain because it meets our high demands for photorealistic CG work. The LightWave renderer gives us the great results we require for NTSC and film projects."

Eric Barba
VFX / CG Supervisor
Digital Domain

"Our graphics have become much more dynamic and realistic since switching to LightWave as our primary 3D program. Its modelling capabilities allow us to perform deadline-oriented work that we could not have done with other programs. The rendering engine simply cannot be topped."

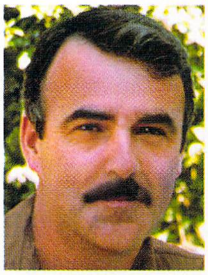
Joe Zeff
Graphics Director
Time

NEWTEK

www.lightwave6.com
IH-10 West, Suite 900 San Antonio, Texas 78230
P.210-370-8000 F.210-370-8001

Web #103

this article has additional
Online Content
www.newtekniques.com/bonus



THE CROSS KEY TO SUCCESS

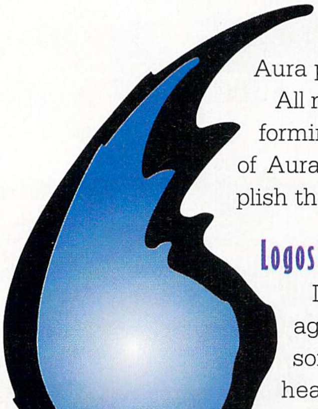
Exploring Aura 2's New Features

by Steve Bowie

As the deadline for this column approached, the release of Aura 2 was so close I could smell the shrink-wrap. On the one hand, I really wanted to do a full exposé of the new interface and features; however the column *also* had to reflect the special focus of this issue on "Commercials." In the end, I compromised.

Before beginning, however, let me whet your appetite. In the last issue, we took a little look at the AuraFX volumes 1-4. By now, you may have read the press release from Visual Inspirations Inc. announcing their new "Triple Play" offering for Aura 2. I have posted a mini-review of these brilliant plug-ins on the Aura pages at www.newtekniques.com. (I have added lots of new stuff on the site - don't miss it!)

Speaking of plug-ins, Aura 1 users will want to download "OutOfSilence." Petr Robek's utility permits you to play audio files with Aura previews. (Check our site for the link.)



All right, let's get down to business. I'll be performing this tutorial with the fantastic version 2 of Aura. Don't worry, I'll explain how to accomplish the same result with the original Aura 1.

Logos 201 (The Stroke Recorder Revisited)

I know what you're thinking – "Oh, not *that* again!" The first time you ever saw Aura, someone likely showed you how to save heaps of time (and become fabulously wealthy) using the Stroke Recorder filter to animate a signature. The subject has been done to death in print and on video. So why are we discussing it ?

Apart from simply animating a signature or line of text, have you tried using the Stroke Recorder to animate a client's logo "writing itself" across the screen for your commercial. "Simple," you say?

Even if you are a born calligrapher with great looking penmanship your script will be completely different than the client's original logo. "Mine looks better!" you protest. However, the client (not wishing to repaint the sides of all his 18-wheelers) begs to differ. "Sorry, but it has to match the original perfectly," he explains.

First Steps

Let's set up the job. To begin, we need original artwork from the client. Often enough, you will wind up working from a scanned image. In this case, I'll supply one for you - Figure 1. (You can download it as logo_1.jpg from the Aura download page at www.newtekniques.com.)

An image captured as a scan usually requires some cleanup work - a subject for another day. This logo is clean enough for our purposes, though it does present several of the problems common to client-supplied imagery. It is multicolored, yet lacking useful alpha channel information. We thus need to separate the text from the background. Let's do that first.

Load the image into a new Aura project. Using Aura 2, select the menu point labeled Filters/Color/Key/CrossKeyer. (Figure 2) In the CrossKeyer panel, click on [Keep]. Then drag a lasso around some of the yellow color from the logo's text (Figure 3). Now, click on [Drop] and lasso a section of the image where both red and white colors exist. (Figure 4)

Adjust the "Mix" mini-slider to .20, and click on [Preview] to check your settings. (Figure 5) Click

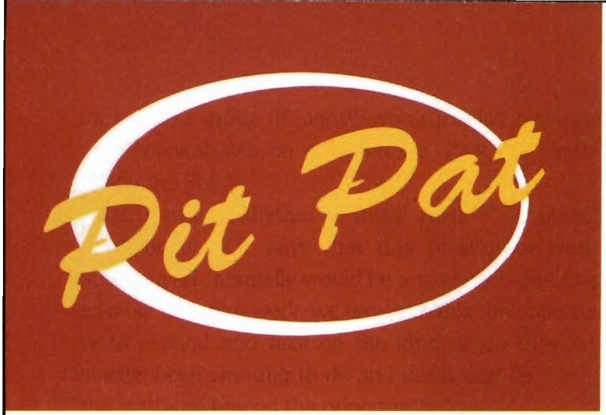


Figure 1

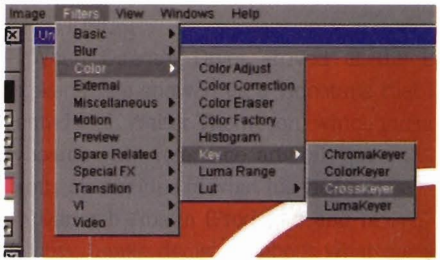


Image
Filters
View
Windows
Help
Basic
Blur
Color
External
Miscellaneous
Motion
Preview
Spare Related
Special FX
Transition
VI
Video
Color Adjust
Color Correction
Color Eraser
Color Factory
Histogram
Key
Luma Range
Lut
ChromaKeyer
ColorKeyer
CrossKeyer
LumaKeyer

Figure2

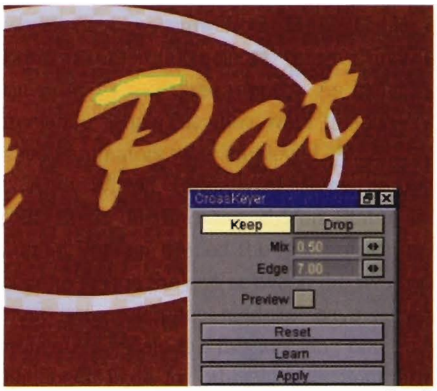

CrossKeyer
Keep
Drop
Mix
0.50
Edge
7.00
Preview
Reset
Learn
Apply

Figure 3

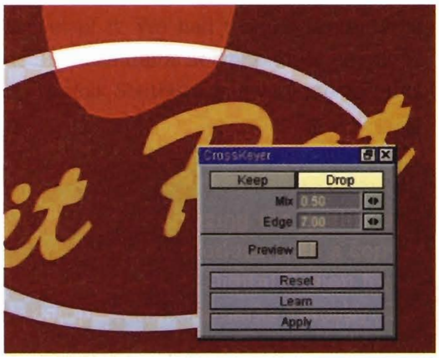

CrossKeyer
Keep
Drop
Mix
0.50
Edge
7.00
Preview
Reset
Learn
Apply

Figure 4

[Learn], then [Apply]. Pretty cool, huh? Smooth the edge of the text a smidgen by applying the "Blur" filter (Filters/Blur/Blur) to the layer, selecting "Opacity only" mode with a modest setting of 1.

[Note: Still using Aura 1? You can accomplish exactly the same thing with an extra step or two. You could use the "ColorKeyer" filter, making several passes, then cleaning up manually a bit. Or, you might simply opt to do the bulk work using "Erase" mode and the "FloodFill" tool (perhaps along with "FreehandFill") finishing up with a little manual erasing and a "Blur" pass – whew! Time to acquire Aura 2.]

We also need a clean copy of the original background for our animated text. So let's prepare that while we're using the CrossKeyer. We just need to reverse our "Keep/Drop" selections! Switch to the untouched duplicate layer, recall the CrossKey filter, click on [Reset], and continue as before. You should wind up with something like Figure 6.

Our background image obviously needs some cleanup work to fill in the "holes," but that's a pretty straightforward job so I won't bother to detail it here. Now that we have our clean text and the background in two separate layers, we're ready to tackle the preliminary steps to animate the logo.

Write On!

Select either the "PenTool" or "Airbrush" from Aura's main panel. We will use this implement to trace over the letters of our text logo layer, creating a path for our animated pen to follow later. Turn any tablet pressure options off, set "Power" and Opacity" to 100, and "Size" to about 14 pixels (this will vary with your font size, of course.)

Stretch your clean text layer out to a length of 60 frames. Just above it, create a [New] empty layer the same length, making it an [Anim] layer. Open the "StrokeRecorder" from the "Filters/Motion" menu, and select [Record]. Now, trace carefully over each letter in turn – go as slowly as necessary to position the "pencil tip" as carefully as you can in the center of each stroke - right down the fairway. Trace each curve and curl as best you can. Don't forget to dot your i's and cross your t's. (Figure 7)

When satisfied, deselect the [Record] button, accepting the default path name offered. Having created this path, you can clear the paint from the frames of the current layer. Select all the frames, and click [Clear] in Aura's Main Panel.

Your timeline layout now has an empty (Anim) layer 60 frames long on top, with the text part of your logo below - also 60 frames long (this layer needn't be an anim layer.) Like me, you also may have tucked the background layer down at the bottom and hidden it for later use. Now for the fun part.

Staying Inside the Lines

In the area to the left of Aura's Timeline display, you'll notice two new columns next to the individual layer icons. They are labeled "H" and "S." (Figure 8) The former has a single

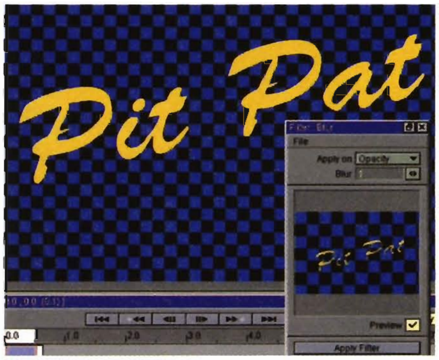

Pit Pat
Filter: Blur
File
Apply on
Opacity
Blur
1
Preview
Apply Filter

Figure 5

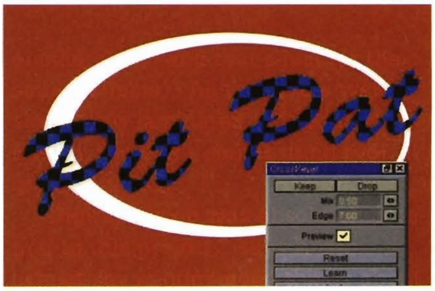

Pit Pat
CrossKeyer
Keep
Drop
Mix
0.50
Edge
7.00
Preview
Reset
Learn

Figure 6

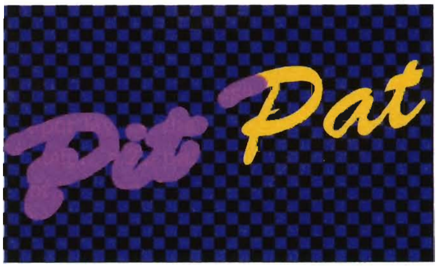
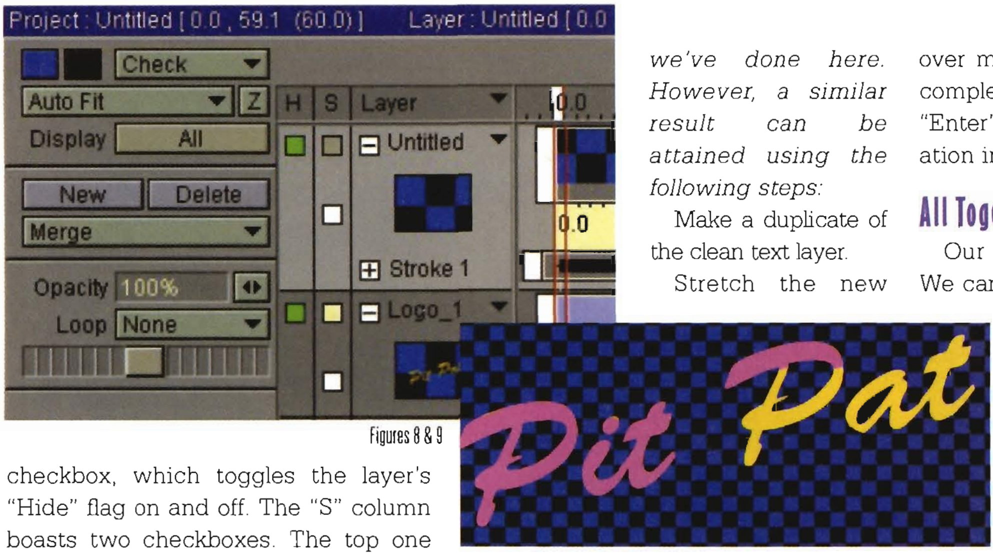


Figure 7



Figures 8 & 9

checkbox, which toggles the layer's "Hide" flag on and off. The "S" column boasts two checkboxes. The top one turns cream-colored when you click on it, indicating "Stencil" mode is enabled. This prevents paint from being added to any other layer *except* where the Stencil layer is opaque.

In this respect, Stencil functions in a similar fashion to Aura version 1's "Replace" mode (replaced itself in Aura 2 by "Preserve Transparency") except that it affects all layers. We can use this ability now to restrict painting operations to the area where our logo text resides in the lower layer! As in kindergarten, we'll be able to color only "within the lines." By the way, the lower of the two checkboxes inverts the active stencil.

Let's complete our project. Click "Stencil" to [On] in the clean text layer. Then, select the empty upper layer. Back in the StrokeRecorder panel, set the painting mode to "Normal." Hit [Control + s] to select all the keyframes in the layer (in this case, the entire layer), and choose "Apply Filter." (Make sure your Drawing mode is set to "Color" first, of course.) I used a contrasting color initially so I could plainly see any "misses." (Figure 9) I touched these up manually later; also cleaning up a few instances where the large brush lapped onto a neighboring part of the script too early.

[Note: Aura 1 users of course cannot use stencil mode to limit painting as we've done here. However, a similar result can be attained using the following steps:

Make a duplicate of the clean text layer.

Stretch the new layer to 60 frames, and make it an "Anim" layer

Switch to "Replace" mode, selecting a contrasting foreground color to work with for visibility.

Record your strokes as you paint over top of the text in the fashion described in the main body of this tutorial.

Afterward, clear the layer, and switch back to "Color" mode.

Select all 60 frames in the cleared layer.

Apply the recorded motion again, without regard to "crossing the lines."

Create a new empty layer, and use the FloodFill or FilledRectangle tool to completely cover it in paint, any color.

Switch to "Erase" mode, and drag the clean text layer's icon onto the icon for the newly filled layer. This operation will leave a cookie cutter layer in the shape of the text.

Stretch this layer to the length of your animation.

Still using "Erase" mode, drag the cookie-cutter layer onto the animated text layer. All of the unwanted excess paint should now be cut away.]

Next, I selected all frames, and turned on "Preserve Transparency" (which is right next to the RGB channel buttons in Aura 2's new Menu Panel). This feature is the equivalent to Aura 1's "Replace" mode. I set Aura's foreground color to the original yellow tone, and dragged out a large filled rectangle over my pink text, turning it yellow. I completed the job by simply hitting "Enter" to repeat the filled shape operation in all frames of the animation.

All Together Now

Our logo animation is almost done. We can delete the Stencil layer, which has served its purpose, and "un-hide" the background layer we touched up earlier. Make it 60 frames long also (or use Aura 2's new "Loop" mode) and create a preview. The logo writes itself neatly over the background, never revealing our rather modest penmanship! (Figure 10) The last frame is identical to our client's original artwork.

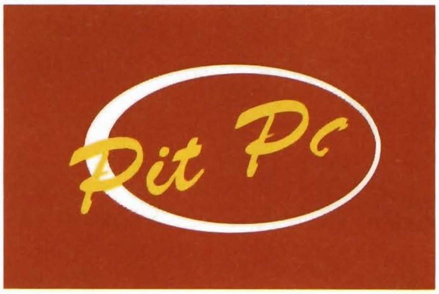


Figure 10

This little tutorial just illustrates one use of the Stencil function. We're going to think of many more, trust me! We also had a chance to try out the CrossKeyer for the first time. What a great addition to Aura's arsenal!

Aura 2 is a real powerhouse boasting many new options. Sure, it's a bit more complex than version 1 – but the added power will amply reward you for the effort spent negotiating the learning curve.

I hope you have Aura 2 by the time you read this. If not, know that it's close, real close! And don't even think about not upgrading. You certainly don't want to miss the fun!

Steve Bowie also writes the Aura column at www.newtekniques.com. He owns LIGHTWORX Graphics & Video, a NewTek authorized dealership in Toronto. E-mail: steve@videotoasterworx.com, and checkout his website at www.videotoasterworx.com

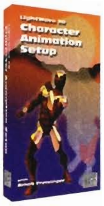
Video Training for Digital Editing, 3D Animation and Special Effects

Desktop Images Training Video

The LightWave [6] Series

Get up & running fast with essential concepts in modeling & animation with LightWave [6]. Discover the awsome power of LightWave's new modeling, surfacing, animation & rendering capabilities. Learn powerful keyboard shortcuts & time saving tips & Tricks. Get up to speed fast and cut months off your learning curve with this powerful video training series. Learn to quickly harness the power of LightWave [6].

Model - Surface - Animate - Render



Character Animation Setup

with Brian Freisinger

Add life to your character models by applying a Skelegon system with Hybrid Inverse Kinematic capabilities. Build a bone structure, add weight maps to isolate deformation attributes and apply an inverse kinematic hierarchy to easily animate any character.

New For LightWave [6]

Hardcore LightWave Logos

with Tony Stutterheim

Discover professional tips & techniques for creating high quality text & logo animation in LightWave 6. Learn how to properly model text objects for maximum rendering quality. Convert 2D logo artwork into 3D models. Spice up your graphics with custom surfaces, moving sheens, beams of light and more!

New For LightWave [6]

Advanced Explosion Techniques

with Emile Edwin Smith

Build realistic explosion sequences in LightWave. Create an action packed explosion sequence complete with flames, sparks, shattering windows, burning understructure & flying debris

Modeling & Animating the Human Head

with Tareq Mirza

Learn the same techniques used in creating models for the Starship Troopers television series! Tareq Mirza provides step-by-step instruction for modeling, creating phoneme targets & applying facial animation.

The New Video Toaster

Get up to speed fast with the power of the New Video Toaster. Learn to optimize configuration settings, Editing Techniques, Compositing Tips, Animation & Special Effects. Create logo animation, custom transtions and amazing animation. Discover how to maximize your abilities with this new "Beyond Broadcast Quality" digital creation system.

Speed Razor - Aura - LightWave VT

Videosyncrasies The Motion Graphics Problem Solver

with Chris & Trish Meyer

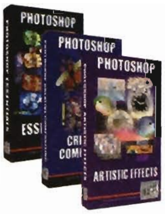
Learn important fundamental concepts of alpha channels, frame rates & pull down. Manage fields to reduce rotoscope & masking work. Understand rendering variables, non-square pixels & avoid image quality "gotchas". Essential concepts for artists, designers, video editors, compositors & 3D animators. It's the Money Tape!

Two Tape Set!

New for BorisFX & Boris AED

with Tim Wilson

Learn techniques for 3D DVEs & special effects to your favorite editing application. Apply filters, unlimited layers, customizable transitions, character generation, 3D text & more. Maximize your productivity with keyboard shortcuts and professional tips & tricks.



Photoshop Artistic Effects

with Katrin Eismann

Enhance your creative skills with advanced layering techniques & special effects. Discover powerful image enhancement capabilities. Master the History Palette & History Brush features and much more!

After Effects Boot Camp

with Taz Goldstein

Learn techniques for creating layered compositions and motion graphic animation for broadcast video, special effects & multimedia design. Taz combines his professional expertise with a unique blend of humor that makes learning fast & easy.

4 Part Series!

Call Toll Free

1-800-377-1039

On-Line Order Catalog

www.desktopimages.com

DESKTOP IMAGES

Desktop Images 1805 W. Magnolia Blvd. Burbank, CA 91506, 818-841-8980 fax 818-841-8023 email - sales@desktopimages.com

NT0900

Web #104

Toast Master
Flying High

CREATING COMPELLING COMMERCIALS

by
Bohuš Blahut

In its infancy, in the 1930's, television appealed primarily to electronics tinkerers and ham radio operators. But broadcasters soon realized that the general public would clamor to crowd around a squinty five-inch television screen. And, inevitably, commercial sponsorship quickly followed.

While today, multimillion-dollar national ad campaigns dominate the primetime TV marketplace, still a great number of locally produced commercials appear during the other twenty-one hours of the unblinking TV day. Though many of these ads are produced by large ad agencies, a great number are still made by smaller production companies. Indeed, in the early days of the Toaster and Flyer, commercials were the bread and butter of many Toaster-based studios.

If you have the aspiration and inspiration, producing commercials can still be a major revenue stream for your company. As I have said before, I think that we have not yet fulfilled the promise of the Video Toaster. It is a broadcast quality device capable of creating network caliber work, but few of us are reaching that potential.

Whether you are a major player with a six figure budget or a scrappy independent, the challenge for TV commercial producers - back in the early days and now - remains the same: keep the viewers riveted to their sets watching your sales pitch. Ad campaigns have been tantalizing us with high drama, sex, low humor, and more sex since the *I Love Lucy* days in the 50's. (Did you know that the intro of the show originally featured cartoon versions of Desi and Lucy smoking Chesterfield cigarettes?)

If you are planning to participate and hope to prosper in the commercial production business, you need to separate the work of your studio from those cookie cutter productions that your clients see on local TV.

So here are a few DO's and a DON'T for creating standout local commercials.

Open Your Eyes

DO learn from the best - and not just television. We're surrounded by inspiration. We live in a highly creative time. You can discover engaging, beautiful graphic design everywhere - CD covers, product packaging, print ads, Mother Nature.

Next time you create a CG page, avoid the default colors and fonts. Current styles include muted neons, tertiary pastels, bold geometric shapes, subtle 2D animation - all of this I learned by watching TV. Prowl the "art" section of your local bookstore or library for good design resources. Recently I found *Techno Style* by Martin Pesch & Markus Weisbeck, and *Street Smart Design* by Diana Martin and Lynn Haller. Start compiling a resource file of design examples and ideas.

You have no excuse for creating chrome flying logos anymore (though you never did) - when is the last time you saw that on TV? For that matter, when is the last time you recorded ads, (for example, during the Super Bowl) and studied them?

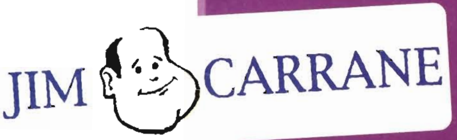
Branding Jim

Call it a long form commercial. The two frames were taken from a promotional video that I did for Jim Carrane, a Chicago actor. He asked us to create a compilation video that he could hand out to prospective agents. The challenge was to create a demo video that wouldn't look like the hundreds of others that agents see every day.

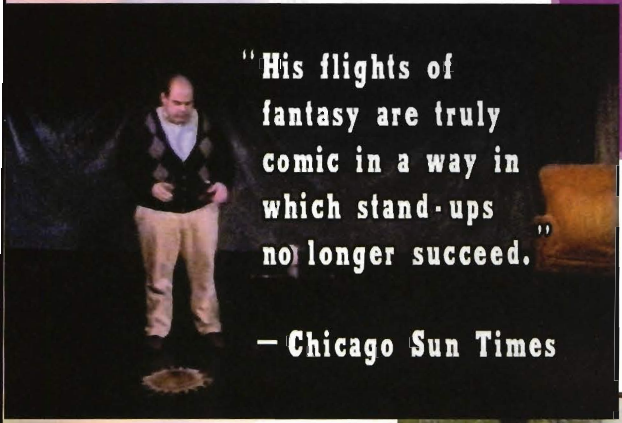
His business card features a nice caricature of himself. I scanned it at 600 DPI and created a quick animation with it in Aura for the intro and ending.

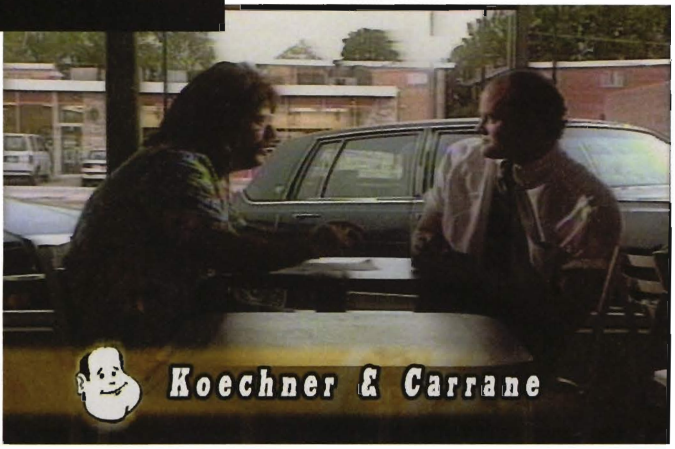
I also snipped out the caricature of his face; and using Aura, I incorporated it into the lower third of every segment. I chose an animated graphic from Digital Juice's Jump Backs collection for the third's background. ToasterCG doesn't let you do that easily - especially not with a nice soft edge and anything less than 25% transparency.

The caricature has become his "brand." His business card, the intro to the video, the individual segments of the video, even the label of the tape all contain Jim's "brand."



What surprises me is the low quality of ads that I see on the UHF stations late at night in Chicago. I wonder if these commercial producers have watched television in 20 years. In my area, the ubiquitous "dollar stores" ads are identical to commercials I've seen from the 1950's. It starts with a mediocre voice-over/talking head shot of the store-owner in front of the shop followed by several lazy pans across aisles of merchandise, climaxed with a cut to a CG address.


"His flights of fantasy are truly comic in a way in which stand-ups no longer succeed."
— Chicago Sun Times



You've suffered through these ads, and you know that they're Snoozeville. They could be so much better with a minor infusion of inspiration and good design.

DO find better ways of to upgrade the requisite trite shots. Who wants to see a commercial end with a shot of the staff standing outside the store? The average consumer does not choose one store over another because he's seen twenty employees who are uncomfortable in front of a video camera.

I understand that a local business owner might be proud of his shop and want to show off what he's made of his business. If he insists on featuring his storefront, find interesting ways to do it. How about an animation that zooms in on the earth, passes through the clouds, looks down on the city, and ends with a shot of the store. All you would need is a couple of stock photography shots, some free LightWave objects, and a deep baritone speaking about "the best deals in the world." A bit ambitious, yes - but you'll definitely earn your money for pulling it off.

Open Your Ears

DO think about the audience. Who are they? How old? How hip? Is their ethnicity important? What are they supposed to learn from the ad? What would make them want to buy your client's products?

Knowing your audience does not guarantee a winning ad campaign, but it should assist you in focusing your message and approach. Even if you don't have a budget for formal market research, you should still ask the questions. If you can't go directly to the audience, the next best source is your client. Any successful businessman knows his customers.

DO listen carefully to your soundtrack. If your client wants to save money by doing his or her own voice over, explain to them about the extra time and money that will be burned on multiple takes and extra editing. In addition, a good reader can inject valuable nuances into a voiceover.

You'll both be surprised how affordable a voiceover can be. If you don't have the budget for a professional actor, plenty of folks with good pipes can be recruited who do community theatre, lecture in schools, or perhaps even pound the pulpit.

You also should be able to find talented musicians to compose and record your music. Original music can quickly separate your productions from those ads playing the hackneyed canned music tracks.

DO take a cue from the name of the place. If you're doing ads for two dollar stores, "Dollar Bazaar" and "Dollar Emporium," you have the opportunity to make two distinctly different commercials. "Dollar Bazaar" could feature a short parody of Casablanca in black & white with dramatic lighting, then transition to the modern day store in color.

For the "Emporium" (which means piles of stuff), you might employ the time-lapse feature of your camera (or the Flyer) to animate growing stacks of stuff.

If the store has a theme, use it! A commercial for "Dollar Junction" (as in a railroad station) inspires me to include a couple of shots from the giant Lionel Train exhibit at Chicago's Museum of Science and Industry.

DO sell the results of the product. If you show the product, include happy people using it. 100 fancy close-ups of diamond rings spinning on a velvet-lined turntable don't replace one romantic soft-focused shot of a loving couple bonding over an exchange of rings. Don't just sell the fertilizer - sell the kids frolicking on the green lawn.

Name branding and product identification are still very important so, consider the following:

DO use the client's logo whenever possible. You can grab a business card or letterhead and use a flatbed scanner to produce a graphic for an overlay, or as part of an animation. In a pinch, you can shoot the logo with your video camera, but the extra resolution of a flatbed scan allows you greater flexibility in your design. (If the client doesn't have a logo, don't pass up a chance to drum up some graphic design work!)

If you still are using your Amiga as your primary graphics workstation, I'd recommend acquiring ImageFX4. With its new layering system and sharp text tool, the program rivals many of the Mac or PC based programs. Working with layers makes experimentation easier and less risky. You also can download TVPaint for free from www.newtek.com. TVPaint was the Amiga precursor to Aura.

With the proliferation of great stock backgrounds, (see my article, *Taking Stock of Canned Footage*, in the March/April issue), you can revitalize your old logos with new textures and backgrounds. And if you do photograph the product, take care in lighting it properly. Also, perhaps shoot it against a green screen so you can composite it over a more dramatic background later.

DO be creative with transitions. Try split screens, a very popular and hip way to do commercials. Devote half of the screen to a testimonial, and the other half to footage of the product in use. You can make these kinds of split screens on a Flyer using a variety of third party packages. With split screens, you can energize your ads by changing the pacing.

But avoid too many animated Toaster transitions. Toaster wipes looked dated five years ago and they don't look any fresher now. You can expand your transition options with the collections from Club Toaster or Millennium (www.novadesign.com). Since many of these transitions were created with more colors and transparency, they will be new to your viewers.

And finally, you need to value your work, your time and your self. So, now for the one grand *don't*.

DON'T work too cheaply. If you are creating professional quality ads, you should be compensated appropriately. We all know that we can create a local spot for under $1000, but be careful about offering a client the moon for that kind of money. Word gets around. Would you rather have a reputation of offering high quality broadcast caliber work, or that you're the cheapest guy in town? I would prefer to pass on a job rather than receive too little money for my valuable time.

Keep Pushing

Take a long hard look at the commercials you've produced and ask yourself how they would fare next to your favorite local and national spots? Often times, you can vastly improve the quality of your work without costing your client much money.

Could you stand to beef up your preplanning? Use a bit more imagination? Take a few creative risks? Not only will you benefit artistically from injecting more creativity into your productions; your business will prosper.

Top-notch work will win you new accounts and provide your company with higher visibility. Recently I did the whole graphics package for a nationally syndicated TV show. I would have never earned that job if I had not pushed myself to do better and better work.

Making great television is an art. You should try something new every time you roll tape or sit down to edit.

Bohus Blahut is the director of The Vantage Point. Recently, he worked on the nationwide show Adrenaline TV, and he has just finished his third tutorial video for ImageFX. Check his new website for details - www.legacymakerinc.com. You can email him at bohus@xnet.com.

BECOME AN ANIMATOR!

A Career in Visual Effects is Now Within Your Reach.
Announcing the Opening of

The Digital Animation &
Visual Effects School

In our 1-year program you will:

- Attend Class in a Movie Studio
- Master New Software
- Bring Characters to Life
- Run a Motion Control Camera
- Design Spaceships
- Pull Mattes
- Record Voice Talent
- Extend Sets Digitally
- Meet Industry Big Shots
- Network Computers
- Work as a Team
- Make Animals Talk
- Supervise an Effects Shoot
- Shoot in a Soundstage
- Stabilize Plates
- Create Creatures
- Study the Classics
- Draw Storyboards
- Track Camera Motion
- Blow Stuff Up
- Perform Motion Capture
- Duplicate Crowds
- Direct Performers
- Earn an Associates Degree

...and create a
DEMO REEL
that will
BLOW EMPLOYERS
AWAY!

New Classes Start
Every 4 Months!

DAVE
SCHOOL

The Digital Animation & Visual Effects School
At Universal Studios Florida

1000 Universal Studios Plaza Building 22A Suite 218
Orlando, FL 32819 (407) 224-DAVE

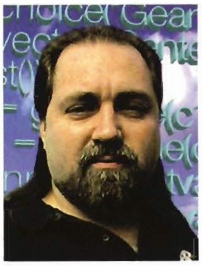
www.daveschool.com

Web #105

Plugged In

LIGHTWAVE ADVANCEMENTS THROUGH PLUG-IN SCRIPT WRITING

this article has additional
Online Content
www.newtekniques.com/bonus



ATTENDING THE MASTER CLASS

Scaling Your Weight Maps

by Bob Hood

I'm sure most of us have experienced the *crash*. Hours have melted away while you were glued to your monitor, completely engrossed in creating, for instance, a magazine column =|^. Suddenly, entropy rides the asymptotic rail straight through the roof, and everything crashes to a grinding halt. You have just lost hours of irreplaceable ingenuity.

To avoid those tragic moments, the LightWave [6] Hub application now provides the ability to backup data at timed intervals. In this article, we will play with our own timed, automatic data backup script for Layout, which will serve as a start for examining functionality not provided by the Hub.

Cometh The MCP

One of Layout's new plug-in architectures, the Master Class acts as a receiving station for all the events that occur in LightWave Layout. While intended to handle varying types of events, as of release 6.5, it only processes events that have direct correlation to the Command Sequence system.

The Master Class architecture not only receives notification of Command Sequence events, it also has the ability to *issue* Command Sequence commands. Only two plug-in architectures in Layout have this ability (the other being Generic).

We'll take advantage of this capability, along with some new features in LScript v2.1, to perform a backup of the current scene, the currently loaded objects, or both, at specified intervals.

From Time To Time

Since the Master Class is activated only when an event occurs, we will be unable to choose a specific time when the scene and/or objects will be saved. Instead, we will use the time elapsed between events as a measure of the amount of time. For most cases, this will be sufficient. However, if the user takes a coffee break that is longer than the specified elapsed time, then the script will perform the save operation immediately upon the next event.

To know how much real time has elapsed between events, LScript v2.1 makes available a new time() function, which returns four integer values. The first three represent the current local hour, minute and second.

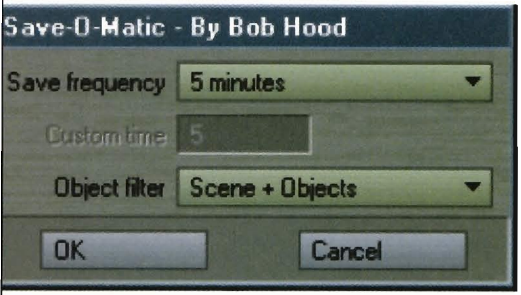
We are most interested in the fourth value, which represents the "tick" count; that is, the total number of seconds that have elapsed since January 1st, 1900. This considerably large number will only serve as a beginning point for our purposes. We grab the current "tick" count from the system in the create() function, which will be the basis of the first comparison of elapsed time later in the process() function.

In create(), note the way values are acquired from among all four returned by time(). A positional assignment is used to extract the returned values directly into variables. However, if you have no need of a particular returned value, you can simply ignore it. To ignore a returned value that precedes one that you need, that particular position in the assignment may be omitted.

Also in the create() function, you'll note the use of the LScript recall() function (and the use of the companion function store() later in options()). This function stores values, identified by a unique label, for later retrieval by the script. Values are placed into locations specific to the operating system. For example, under Win32, values are placed into the Registry. The values managed by these pair of functions are unique to the script that stored them, so only that script can retrieve again.

Sleeping Daemons

When an event occurs in Layout, any active Master Class plug-in (or script) is notified of the event. This notification comes through the script's process() function. As you can see, the process() function takes two arguments: the type of event that occurred, and any data

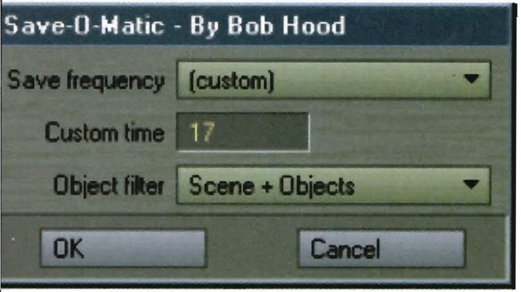

Save-O-Matic - By Bob Hood

Save frequency: 5 minutes

Custom time: 5

Object filter: Scene + Objects

Figure 1


Save-O-Matic - By Bob Hood

Save frequency: (custom)

Custom time: 17

Object filter: Scene + Objects

Figure 2

that may be relevant to that event. As of this writing, only events of type COMMAND are defined for this plug-in architecture. The data associated with events of that type is a string that represents the equivalent Command Sequence function for the event, and any parameters it may itself have used.

In our backup script, however, we won't filter events for their type or values. The events serve only to give us the opportunity to check elapsed time, by first retrieving the "tick" count at the time the event occurred. Because this value is guaranteed to be *greater than or equal to* the value we acquired in the create() function; any previous "tick" value will be subtracted from it to determine the exact number of seconds that have elapsed.

The first time into process(), this previous tick value, stored in the 'last_save' global variable, will be the value acquired in create(). This original tick value will continue to exist in 'last_save' until the difference between that and the current tick value has exceeded the requested timeout value. Once a timeout has occurred, then the base value in 'last_save' is set to the new tick value so that a new elapse of time can occur.

While testing the elapsed time against the actual timeout value, notice that the timeout value, stored in the 'save_timeout' global variable, is multiplied by 60. This is done because the 'save_timeout' value, set by the user in the later options() function, is specified in minutes, whereas the elapsed time is being measured in seconds. This multiplication converts minutes to seconds .

It should be clear how entirely dependent we are upon events to trigger our ability to check elapsed time. However, since the scene and its contents cannot actually *change* without events being generated, backups of the data can only occur when changes have been made.

Command Decision

When the elapsed time has met or exceeded the value indicated by the user, we are ready to save things. However, if the scene hasn't already been saved to disc, we bypass it. The test for this is done by comparing the name of the scene file to "(unnamed)," which is the default file name assigned to new scenes.

The actual extraction of the scene's filename illustrates a new ability in LScript v2. Object messaging can now be chained together, making data extraction as illustrated in the process() function much easier and more streamlined in the script itself.

Also new in LScript v2.1 are methods of constructing object agents. Here, the Scene() constructor is being used to generate an Object Agent for the current scene, and that returned object is then queried for its filename in the expression. These new Object Agent constructors replace the functionality long found in the getfirstitem() Layout LScript function.

If the scene has an associated disc file, and the user has not specified "objects only" in the settings, then the SaveScene() Command Sequence function is called. This function will save the current scene, updating its original disc file.

A similar test is performed for objects in the scene. If the user has not specified "scene only" in the script settings, we then test the scene for objects. The Mesh() Object Agent constructor (new to LScript v2.1) will return "nil" if no Mesh objects exist in the current scene, so testing the return value of this constructor will allow us to call the SaveAllObjects()

continued on page 26

Save-o-matic Listing

```
   @warnings
   @version 2.1
   @script master
   last_save;
   save_timeout;
   save_frequency;
   save_filter;
   @define    SAVEFREQ    @"1 minute","5 min-
utes","10 minutes","(custom)"@
   @define    SAVEFILTER  @"Scene only","Objects
only","Scene + Objects"@
   create
      (,,,last_save) = time();
      timeout = recall("timeout",5);
      save_frequency = recall("save_frequency",2);
      save_timeout = recall("save_timeout",5);
      save_filter = recall("save_filter",3);
      setdesc("Save-O-Matic: ",save_timeout,
            save_timeout < 2 ? " minute" : " minutes");
   process: event, command
      (,,,current_time) = time();
      if((current_time - last_save) > (save_timeout *
60))
         last_save = current_time;
         if(Scene().filename != "(unnamed)" &&
save_filter != 2)
            SaveScene();
         if(save_filter != 1 && Mesh())
            SaveAllObjects();
   options
      reqbegin("Save-O-Matic - By Bob Hood");
      c1 = ctlpopup("Save
frequency",save_frequency,SAVEFREQ);
      c2 = ctlinteger("Custom time",save_timeout);
      c3 = ctlpopup("Object filter",save_filter,SAVE-
FILTER);
      ctlactive(c1,"custom_time",c2);
      return if !reqpost();
      save_frequency = getvalue(c1);
      save_timeout   = getvalue(c2);
      save_filter    = getvalue(c3);
      reqend();
      if(save_frequency != 4)
         save_timeout = integer(save_frequency ?
SAVEFREQ);
      setdesc("Save-O-Matic: ",save_timeout,
            save_timeout < 2 ? " minute" : " minutes");
      store("save_frequency",save_frequency);
      store("save_timeout",save_timeout);
      store("save_filter",save_filter);
      (,,,last_save) = time();
   custom_time: val
      return(val == 4);
```

Tutorial

LIGHTWAVE
FUNDAMENTALS

A STEP-BY-STEP GUIDE TO CREATING MORE PROFESSIONAL PRODUCTIONS

this article has additional
Online Content
www.newtekniques.com/bonus

MEET THE BEETLE

Parenting in LW [6]

by
Jared Brookes

For those of you familiar with earlier versions of LightWave, the interface of [6] can be disorienting, with favorite tools missing in action. To help acclimate you to the new [6] surroundings, I've put together a basic tutorial on parenting, one of those AWOL features.

For this exercise, I am using a beetle that I built in LightWave 5.0 many ages ago. To follow along, you will find the family of beetle objects in the Bonus section at www.newtek niques.com.

Well, assuming you have downloaded the objects and stored them in a folder called "Beetle" in the "LightWave\ Objects" directory, we'll begin.

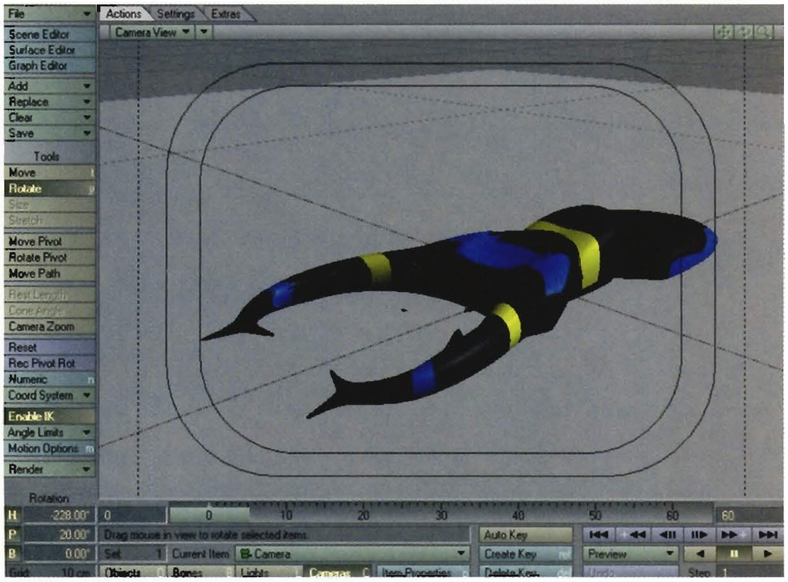

File
Scene Editor
Surface Editor
Graph Editor
Add
Replace
Clear
Save
Tools
Move
Rotate
Size
Stretch
Move Pivot
Rotate Pivot
Move Path
Rest Length
Cone Angle
Camera Zoom
Reset
Rec Pivot Rot
Numeric
Coord System
Enable IK
Angle Limits
Motion Options
Render
Rotation
H -228.00°
P 20.00°
B 0.00°
Grid 10 cm
Actions
Settings
Extras
Camera View
Drag mouse in view to rotate selected items
Auto Key
Create Key
Delete Key
Current Item
Camera
Objects
Bones
Lights
Cameras
Item Properties
Preview
Step 1

Figure 1

1. Load Layout (remember, this is a LW [6] tutorial), and make sure that the [Auto Key] button at the bottom of the screen is deactivated.

Choose [Add] [Load Object], and load: BeetleBody.lwo, BeetleHead.lwo, BeetleLeg-Lower.lwo, BeetleLeg-Upper.lwo, and Mirror.lwo.

Switch to [Camera View] and click on [Cameras] at the bottom of the screen. Make sure that [Move] is selected, select [Numeric] and move the camera to: X -5 cm, Y 3 cm, Z 6 cm. Next, click [Rotate] [n] and use: H -228 degrees, P 20, B 0. Press [Enter] twice to keyframe it at Frame (0). Your display should look a lot like Figure 1.

2. Next, let's set up our parent hierarchy. Parenting is simply a method of creating a relationship between two or more objects. If you parent object B to object A, whenever you move the parent, A, the child will follow. For example, if you pitch A 30 degrees, B also will pitch 30 degrees. Even though B is a child, it still can be moved independently of A. Finally, if you parent C to B, object C also is parented to A.

So, back to our beetle, set "Current Item" to "BeetleHead" and click on [Motion Options] on the [Actions] tab (near the bottom of the left-hand column) or press [m]. Next to "Parent Item," select "BeetleBody." You have just made "BeetleHead" the child and "BeetleBody" the parent.

Now, press the Down arrow once to switch to the next "Current Item" on the list, "BeetleLeg-Lower." Set its parent to "BeetleLeg-Upper." Now, parent "BeetleLeg-Upper" to "BeetleBody."

Finally, create a null and parent the

"BeetleBody" (and therefore, all of its components) to it. The null will serve as a convenient "handle" to move our entire beetle family.

Select [Add] [Add Null] and name it "Beetle Null." Set "Current Item" to read "BeetleBody," and set its parent to "Beetle Null."

Good, we're done with the parenting component for now. Click the [x] at the top right to close the panel.

3. Open the [Scene Editor] and click the box to the right of "BeetleBody" (under the eye). Drag up to select "Wireframe" view - otherwise, the large body will obscure the rest of the objects. Close the panel.

Press [[] about 3 times to change the grid to a more manageable size.

Change the "Current Item" to "Beetle Null" and [Move] it up to Y = 3.85 mm and click [Create Key] [Ok]. Make your life a easier by deselecting the [X] and [Z] buttons at the bottom left.

Make "BeetleLeg-Lower" the "Current Item." Switch to the top view, and [Move] [Numeric] it to: X 0 m, Y -250 um, Z 1.625 cm. Keyframe it. This places the lower leg in the proper position in relation to the upper leg.

Soon, you will see why I asked you to move this particular object before we proceed to clone it. As well, be sure to deactivate its [H]eading and [B]ank options, since we'll only be rotating the lower legs using Pitch.

4. Select [Scene Editor]. Take a look at the Item list (Figure 2). The white arrows next to certain items indicate that those items are parents and their children are indented below them. If two items are in-line with one another vertically, (for example, "BeetleHead" and "BeetleLeg-Upper"), both are the direct children of the item above and to the left of them. Notice that the "Mirror" isn't part of the hierarchy. The highlighted object is "BeetleLeg-Lower" (the Current Item). Change the "Current Item" to "BeetleLeg-Upper." Click [Add] [Clone Current Item], type [5], and press [Enter]. Like magic, six "BeetleLeg-Upper" objects appear in the hierarchy - all parented to "BeetleBody." This is because we parented the object, before we cloned it.

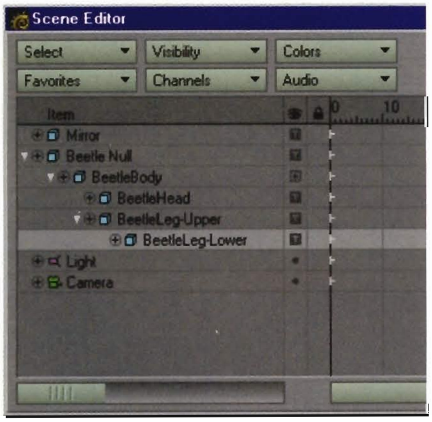
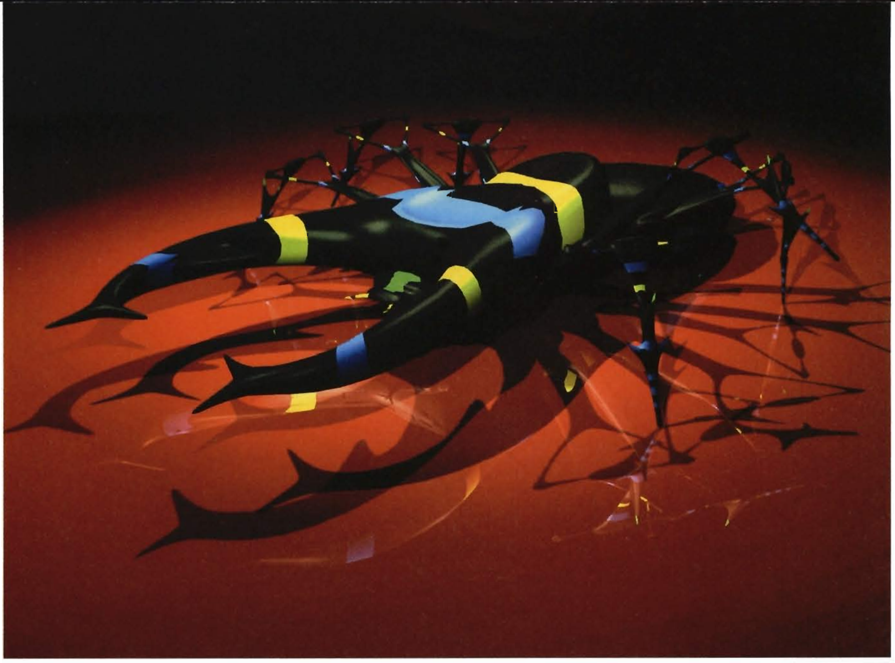

Scene Editor
Select
Visibility
Colors
Favorites
Channels
Audio
Item
0
10
Mirror
Beetle Null
BeetleBody
BeetleHead
BeetleLeg-Upper
BeetleLeg-Lower
Light
Camera

Figure 2



Beetle

Set "BeetleLeg-Lower" as the "Current Item," and do the same thing. In this case, we have created a bit of a problem. All of the lower leg clones are parented to "BeetleLeg-Upper (1)" and not their respective upper legs (Figure 3).

To fix this, click-drag each "BeetleLeg-Lower" item under the matching "BeetleLeg-Upper" item in the list. For example, "BeetleLeg-Lower (3)" would go directly beneath "BeetleLeg-Upper (3)." Figure 4 shows the finished hierarchy.

(Note: When dragging one item under another, release the child-to-be when the pointer is right over the blue box next to the future parent. Otherwise, the dragged object will not become a child of the object above.)

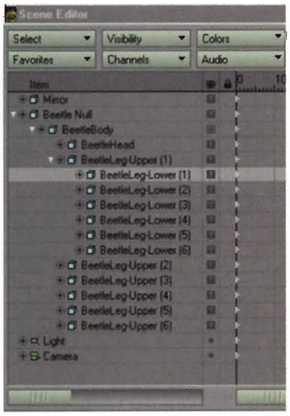

Scene Editor
Select
Visibility
Colors
Favorites
Channels
Audio
Item
0
10
Mirror
Beetle Null
BeetleBody
BeetleHead
BeetleLeg-Upper (1)
BeetleLeg-Lower (1)
BeetleLeg-Lower (2)
BeetleLeg-Lower (3)
BeetleLeg-Lower (4)
BeetleLeg-Lower (5)
BeetleLeg-Lower (6)
BeetleLeg-Upper (2)
BeetleLeg-Upper (3)
BeetleLeg-Upper (4)
BeetleLeg-Upper (5)
BeetleLeg-Upper (6)
Light
Camera

Figure 3

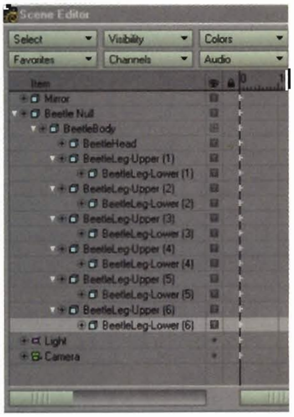

Scene Editor
Select
Visibility
Colors
Favorites
Channels
Audio
Item
0
Mirror
Beetle Null
BeetleBody
BeetleHead
BeetleLeg-Upper (1)
BeetleLeg-Lower (1)
BeetleLeg-Upper (2)
BeetleLeg-Lower (2)
BeetleLeg-Upper (3)
BeetleLeg-Lower (3)
BeetleLeg-Upper (4)
BeetleLeg-Lower (4)
BeetleLeg-Upper (5)
BeetleLeg-Lower (5)
BeetleLeg-Upper (6)
BeetleLeg-Lower (6)
Light
Camera

Figure 4

Close the Scene Editor.

5. Now we're ready to start moving the rest of the objects into place. Select the "BeetleHead" object, and [Move] it to Z = 9.5 mm and keyframe it in place.

Next, move the legs into position. Set "Current Item" to BeetleLeg-Upper (1)" and [Move] it to: X -5.4 mm, Y 500 um, Z 1.65 mm, and [Rotate] it to: H -60.50 degrees, P -24, B 0. Keyframe it.

Notice that the next lower leg object is also positioned correctly relative to its respective upper leg object because we moved the original lower leg object before we cloned it. If we had

Tutorial

cloned "BeetleLeg-Lower" before moving it into position, we would have had to move and keyframe every lower leg object individually. Note also that the deactivation of Heading and Pitch has carried through all of the clones.

Okay, now we can rotate the first lower leg object. Select "BeetleLeg-Lower (1)" and [Rotate] it to P = 88 degrees (Figure 5).

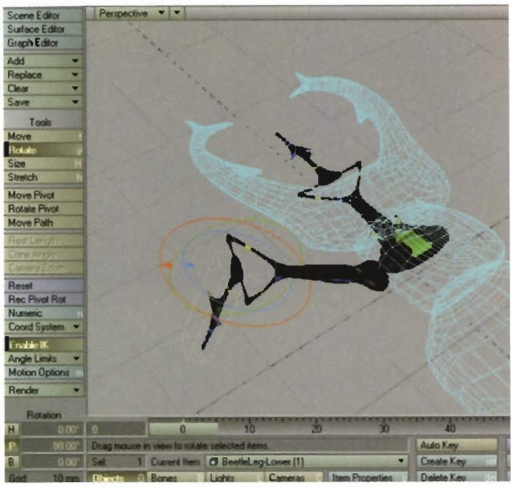


Figure 5

Position the remaining legs as follows (and keyframe them):

BeetleLeg-Upper (2): X 5.4 mm, Y 500 um, Z 1.65 mm, H 70, P -20.10, B 0.

BeetleLeg-Lower (2): P 75.50.

BeetleLeg-Upper (3): X -5.55 mm, Y 500 um, Z -2.76 mm, H -90, P -44, B 0.

BeetleLeg-Lower (3): P 78.

BeetleLeg-Upper (4): X 5.5 mm, Y 500 um, Z -2.76 mm, H 90, P -30, B 0.

BeetleLeg-Lower (4): P 85.

BeetleLeg-Upper (5): X -5 mm, Y 700 um, Z -7 mm, H -120, P -27, B 0.

BeetleLeg-Lower (5): P 111.50.

BeetleLeg-Upper (6): X 5 mm, Y 700 um, Z -7 mm, H 120, P -24, B 0.

BeetleLeg-Lower (6): P 92.

With that done, we can set the scene up for a render.

7. First, though, open the [Surface Editor], and click on the white arrow next to "Mirror." Give this surface a color of R 255, G 55, B 60, and set its Reflection level to 80%. You'll want to save the "Mirror" object to ensure the surface settings are saved with it.

8. Next, choose [Lights] and press [p]. Click on [Global Illumination] and drop "Ambient Intensity" down to zero. Close the panel.

Change the "Light Type" to [Spotlight], and set the "Spotlight Cone Angle" and "Spotlight Soft Edge Angle" to 35 degrees. Change "Shadow Type" to [Shadow Map] and increase the "Shadow Map Size" to 4096, so that the shadow edges aren't blocky.

Select [Add] [Clone Current Item] and make 2 clones. Switch "Shadow Type" for "Light (1)" to Off, and close the "Light Properties" panel.

[Move] "Light (1)" to: X 4 cm, Y 8 cm, Z 5.3 cm, and [Rotate] it to: H -140, P 58, B 0. Keyframe it. "Light (2)" should be positioned at X -3.5 cm, Y 3.5 cm, Z 5 cm, and H -218, P 22, Z 0. And "Light (3)": X 5 cm, Y 14 cm, Z -10 cm, and H -380, P 58, B 0. And, of course, create a keyframe at Frame 0. Good.

9. Now, click [Cameras] and [Item Properties]. Select a resolution that you like, and widen the lens a bit by lowering "Zoom Factor" to 2.6. Set "Antialiasing" to "Enhanced Low."

Switch to the [Renders] panel and enable "Image Viewer" and "Ray Trace reflection." You are ready to render. .

Have fun with your virtual beetle. Try setting up a walk cycle for it.

Jared Brookes is a freelance 3D Modeler/Animator and analog synthesizer programmer, currently based out of Calgary, Canada. Feel free to check out the music and computer-generated images on his web sites "Synthetic Reality" and "Voltage Control" at: www.blitter.com

---

Plugged In

cont. from 23

Command Sequence function only if the scene contains Mesh objects.

A side effect of the SaveScene() and SaveAllObjects() Command Sequence functions is that they permanently modify the disc files where the components reside. Future releases of Layout may have support for saving specific copies of the scene and objects without modifying the attributes of those currently loaded, opening the possibility of versioning the saved items.

Rakish Requester

The requester has the usual controls and means of gathering data and a call-back function (most of which were introduced in the v1.x line of LScript development). The accessibility of a control is based upon the value of another using the ctlactive() function.

Figure 1 shows the requester panel when the user has selected one of the first three pre-defined timeout values. Note that the "Custom time" control is "ghosted" to show that is it inactive. As the user selects values in the pop-up control, the UDF specified in the ctlactive() call is called with the current value of the pop-up. This call-back UDF will evaluate the value of the control, and return a Boolean true or false value to indicate whether or not dependent controls should be active or inactive.

Figure 2 illustrates the activation of the "Custom time" control when the user selects the "(custom)" setting. At this setting (#4), the call-back function returns Boolean true, enabling the "Custom time" control. The user then can enter a custom timeout value in minutes that will be used instead of the pre-defined values. Being able to issue Command Sequence calls in response to events opens up some powerful avenues, of which this issue's script is only a limited example. Now that you have it, I look forward to seeing how you use it.

Register by December 11, 2000
for special savings!

Refer to Priority Code: A-NT

Macworld
Conference & Expo™

ahead

Moscone Convention Center
San Francisco, CA
January 9 – 12, 2001

Register Online Today!
www.macworldexpo.com

Call Toll Free
1·800·645·EXPO

Macworld Conference & Expo is moving ahead with knowledge and technology!

World-Class Exposition!
A One-Stop-Shop to over 500 companies and a multitude of innovative products and services!

Show Highlights
- Insightful Keynote Address by Steve Jobs, CEO of Apple
- Feature Presentations by industry leaders Microsoft Corporation and Macromedia
- Digital Art Gallery
- Internet Café
- Individual Guided Expo Tours
- Music & Audio Showcase
- Macintosh Gaming Area

Special Interest Boulevard — San Francisco Debut!
A showcase of ground-breaking products and technologies from some of the hottest up-and-coming companies in the Mac industry.

- Digital Media
- Small Business
- Sci-Tec
- Education/Assistive Technology
- 3D
- Edutainment

Cutting-Edge Educational Programs
Conference sessions for the New, Beginning, Intermediate and Advanced users!

Macworld/Pro offers the most sophisticated training available on Mac for the advanced users and skilled professionals.

Macworld/Users continues to be one of the best educational values anywhere.

MacBeginnings are high-energy, informative sessions that acquaint you with the Mac community.

Macworld
Conference & Expo.

Be sure to visit
www.macworldexpo.com
for the most up-to-date information

Owned and Managed by
IDG
WORLD EXPO

©2000 IDG World Expo.
All rights reserved. All other trademarks contained herein are the property of the respective owners.

Web #127

Flagship Sponsors

Macworld
Macworld.com
MacWEEK.com
MacCentral.com

TO ORDER CALL 800-544-6599
MONDAY-FRIDAY 9-5:30, CST
INFORMATION 262-548-8120 • FAX 262-548-8130
TECH SUPPORT/RMAs 262-548-8159 • 12-4 PM, Mon-Fri.

www.sharbor.com

VISIT OUR Internet site www.sharbor.com

Check out www.videotoasternt.com
The original, unofficial site for Video Toaster NT.

Safe Harbor Computers - Your #1 Source for Digital Video, 3D Animation, and Multimedia Products.

DarkTree Textures

is a powerful system for designing your own original textures (static or animated). Create anything from stunning effects to intense realism to brilliant abstract designs. Render procedurally-generated texture maps or plug your shaders straight into LightWave, Animation Master, 3D Studio Max, or trueSpace with one of the Simbionts (custom plugins) 285.99

DarkTree Simbiont for Animation Master	52.00

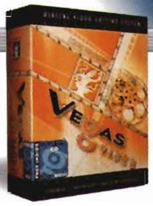
LightWave [6] instructional video tapes from Dan Ablan and Class on Demand.

LightWave [6] 101	37.99
LightWave [6] 201	37.99
LightWave [6] 202	37.99
LightWave [6] 203	37.99
LightWave [6] 301 – Build a character from head to toe. Works with symmetry, mice, subpatch modeling, and smooth shift, all covered in-depth	37.99
LightWave [6] 302 – The basics of bones! Create skelegons, apply weight maps and set up simple inverse kinematics	37.99
LightWave [6] 303 – *NEW!* Learn character animation techniques	37.99
Speed Razor 4.7/4.8 Training	99.00

SHAVE AND A HAIRCUT
Real Hair Real Fast

Lip Service – A unique software package that enables animators to quickly and easily generate a multitude of facial expressions, mouth movements, and phonemes, all with realistic results! *Includes Shave And A Haircut* 286.00

Shave And A Haircut
Features include Shadowing, Motion Blur, Collision Detection and more 285.00



Vegas Video

A unique video editing package which allows for real-time previews with no rendering and multiple file formats and resolutions on the same project. Works on W98/2000/NT .... Call

Acid Music	69.99
ACID Pro 2.0	264.99
ACID Loops	Call
Direct X Noise Reduction 2.0	249.99
Sound Forge 4.5	289.99
Vegas Audio 2.0	389.99
Video Factory	95.99

dpsReality
REAL
Adobe Premiere 5.1

dpsReality/Adobe Premiere 3D

The dpsReality is a studio disk recorder featuring compressed and uncompressed recording. This bundle includes Adobe Premiere 5.1 RT NLE for real-time non-linear editing, DPS V3DX real time effects processor (DVE) module, dpsReality player software, PowerCG titling package from Cayman Graphics, and the audio/video breakoutcable. 4199.00

Hurry! For a limited time, buy a Velocity or a Reality card and add LightWave 3D for only $995.00

dpsReality/ Adobe Premiere 2D	2799.99
dpsReality	2179.99

dpsVelocity – 3D

The combination of hardware and software is what makes this real-time NLE system the ultimate choice. The **dpsVelocity – 3D** delivers faster, sharper, and easier edits at an affordable price. This real-time editing solution includes the dpsReality card, dpsReality player, V3DX real-time effect module, audio/video breakout cable, dpsVelocity NLE, and so much more 4499.00

dpsVelocity – 2D	2699.00

DPS

Visit our site **www.sharbor.com** to build your own ready-to-edit dpsVelocity workstation.

DVStorm

Introducing DVStorm, a real-time DV editing system that combines a high performance feature set with stability, reliability, and affordability. Boasting render-free, real-time digital video editing, DV and analog input/output, MPEG output for DV D, plus Web streaming capabilities. DVStorm is the ultimate digital editing experience 1699.00

Canopus DVRex-RT

The DVRex-RT is an outstanding high-performance PCI video capture card for the serious DV nonlinear editor for Win2000/NT. Includes DVRex-M1, DVRex-RT Option, breakout box, Rex Edit 2.9, Adobe Premiere 5.1, software bonus pack, REX Navigator, and all necessary cables 2699.00

Canopus Rex RT Option	989.00
Amber DVD with Spruce Virtuoso	2999.00
Raptor Bay	89.00
Xplode	399.00
DVRaptor	469.00
DVRaptor RS without Premiere	369.00
Mega Production Bundle Includes DVRex-M1 breakout box, RexRT *option*, Rex Edit 2.7, Adobe Premiere 5.1, Rex navigator software, and all necessary cables	Call

canopus

HARDDRIVES/STORAGE

Guaranteed Low Prices!

Seagate

IBM Deskstar DTLA 75GXP 307045 45GB IDE	
Seagate ST150176LC 50GB Ultra2 Barracuda	
Seagate ST39204LW 9GB Cheetah 18XL 10K Ultra 160	Call
Seagate ST318404LW 18GB Cheetah 10K Ultra 160	Call
Seagate ST318436LW 18GB Barracuda 7.2K Ultra 160	Call
Seagate ST336704LWV 36.7GB Cheetah 10K Ultra 160	Call
Seagate ST173404LW 73.4GB Cheetah 10K Ultra 160	Call
Seagate ST173404LWV 73.4GB Cheetah 10K Ultra 160	Call

Matrox RT2000
MEGA Pack

Matrox RT2000

A real-time non-linear editing solution. The RT2000 exploits the explosive 3D graphics performance of the Millennium G400 accelerator to provide broadcast-quality 3D DVE and 32-bit uncompressed animated graphics. Comes bundled with loads of software! 999.00

3Dlabs
OXYGEN GVX420

GVX420

Need more power? The GVX420 has dual GLINT Gamma G2 processors, dual GLINT R4 rasterizers, 128MB of on-board memory and flexible analog and DV1 dual display capabilities 1649.00

Oxygen GVX1 Pro AGP Includes 64MB of on-board memory with virtual texturing	799.00
Oxygen GVX210	Call
Oxygen VX1	Call
Oxygen GVX1– AGP	469.00

3Dlabs

LightWave [6] The award-winning 3D animation system from NewTek! Powerful new tools include enhanced interactivity and scene editor, Skelegons, MetaNURBS in layout with point weighting, caustics, UV Mapping, surface editing in modeler and a whole lot more! 1995.00

HURRY! This is a limited-time special price! Ends soon!

LightWave [6] Upgrades	**Call**
Aura 2.0	**759.00**
Aura 1.0 - 2.0 Upgrade	**295.00**
Calibar	**Call**
Inspire 3D/LD_Tools Bundle	**459.99**

Visit our website

www.videotoasternt.com

- All the latest VTNT info
- FAQ's and Tech Support
- Active Discussion Forum
- Links
- Easy ordering of VTNT Systems

NewTek
Video Toaster

Video Toaster NT Never again compromise the quality of your video - lossless video editing is now available on your desktop! Introducing Video Toaster NT – the next generation, uncompressed digital video solution from NewTek. For only $2995, your complete post-production studio includes:

- Speed Razor (award-winning non-linear editing)
- Aura (2D graphics, manipulation & compositing)
- Lightwave (professional 3D animation)

Already own a Video Toaster, Flyer or Lightwave? Save $500 when you upgrade to the Video Toaster NT!

Complete reliable, quality turnkey Toaster workstations are also available!

Video Toaster NT SDI Option	**995.00**
Video Toaster NT 1.0-2.0	**495.00**
Video Toaster NT 1.0-2.0 + Breakout box	**1995.00**

Hurry! Offer ends soon. Buy a Video Toaster NT and receive a full version of LightWave [6] for only $995.00!

FirePower
DV
for the
VideoToaster

FirePower

FirePower gives firewire to NewTek's Video Toaster NT on Windows 2000. Get true lossless DV transfer, digital input and output, and seamless integration with Speed Razor, Aura, and LightWave. FirePower also includes a real-time storyboard editor and can composite up to three graphics/titles layers without rendering! FirePower also works as a stand alone and does not require a Video Toaster .... **Call**

RTV
File
I/O
for Premiere

Plug-in for VTNT!

RTV File I/O for Premiere	**132.99**
RTV File I/O for After Effects	**39.00**
RTV File I/O Bundle	**161.99**

Electronic versions available! Call for pricing!

Lower Price!
Supports Windows 2000, NT, 98 and ME
DV500

DV500 – A real-time, native DV editing solution with 3D effects. The DV500 allows both analog and digital devices to be connected so you can edit and create in either format. Then, output to tape, CD-ROM, DVD or the Internet...... .... **799.00**

DC2000 – A complete creation and finishing for tape, DVD, CD and streaming video. The DC2000 offers a dual stream component MPEG-2 video editing system with real-time effects! .... **Call**

DC1000/DV	**1799.00**
Studio DV	**99.00**
DV 300..... *Close-out!*	**469.00**
DC30 Pro	**Call**
DV200	**399.00**
Hollywood FX Bronze	**229.00**
Hollywood FX Silver	**499.00**
Studio OnLine	**68.99**

PINNACLE SYSTEMS

Boris FX 5.0 The most popular 3D DVE & Effects Plug-in for non-linear editing. Achieve professional results quickly using the NEW effects Library Browser or add personal touches and save effects for later use. Comes complete with 3D Rotations, a multi-layered timeline, unlimited keyframes and preview to RAM playback. Boris FX supports Adobe, DPS, In-Sync, Canopus, and Ulead NLE software **399.00**

Boris GRAFFITI

Graffiti A powerful 2D/3D titling creation and animation plug-in. Featuring a variety of text effects including particles, light sources, and motion blur. It runs on Mac and WIN/NT platforms. Supports Adobe, DPS, Canopus, In-Sync, and so many more! **399.00**

Get BorisFX and Graffiti for only **595.00**

SAVE $200 when you purchase these with any capture card.

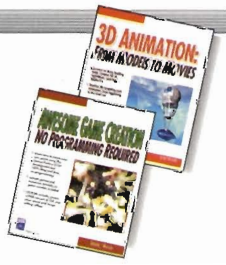
SpiceMaster

SpiceMaster 100

A powerful new plug-in that customizes and controls all 2D effects with near-real time speed! Create fresh new custom looks – from soft to subtle to organic. Instantly customize your transitions and flow any filter within a scene. SpiceMaster's intuitive interface allows you to quickly and easily tailor such effects exactly to your content and creative needs. **249.00**

Available for Video Toaster NT and After Effects!

SpiceMaster Deluxe - Includes 500 spice effects **399.00**


3D ANIMATION: FROM MODELS TO MOVIES
AWESOME GAME CREATION NO PROGRAMMING REQUIRED

3D Animation From Movies to Models	**49.00**
3D Creature Workshop, Second ed	**41.99**
3D Lighting History, Concepts & Techniques	**44.99**
Awesome Game Creation	**40.99**
Creating 3D Comix	**40.99**
The Digital Film Making Handbook	**46.99**

Let Safe Harbor build a custom, ready-to-edit

VIDEO EDITING WORKSTATION

NewTek
Video Toaster

Our systems use Intel Pentium III processors, Pinnacle, NewTek, DPS and Canopus video cards and are expandable and dependable. Point'n click the features you want and get a package price instantly online at www.sharbor.com

■ ■ ■ ■

Safe Harbor is dedicated to providing quality digital video, animation and multimedia products, technical expertise, and courteous, personalized service to our customers to maintain our impeccable reputation and total customer satisfaction.

Terms: POs accepted from schools and government agencies • Personal and business checks accepted, but must clear before shipment, usually 10 days • Defective products replaced promptly. RMA number required (call 262-548-8159) for all merchandise returns. Returns not accepted after 15 days. Returned products must be in original packaging, postage prepaid. Opened software not returnable. Shipping charges not refundable. Returns subject to a 15% restocking fee. • Not responsible for typos. Prices subject to change.

SAFE HARBOR COMPUTERS

W226 N900 EASTMOUND DR., WAUKESHA, WI 53186

Web #106

Tutorial

A STEP-BY-STEP GUIDE TO CREATING MORE PROFESSIONAL PRODUCTIONS

A CLOSER LOOK AT COMBINING EFFECTS

by Ron Griswold

What if you want to have bones and morphs on the same character? What if you want bones, morphs and PuppetMaster? How 'bout bones, morphs, PuppetMaster AND GizmoPlayer? Stop. Enough, already. Why on earth would you ever want to do this?

Well, the need to combine different effect types occurs quite often. If you haven't encountered it yet, you will. Regretfully, no general rule guides you through the process of combining different effect types. Since each of the effects are different, the way they work together depends entirely on what effects you are combining, and in what order.

Project: messiah™
Advanced Animation System

One common need for combining is using morph targets for a face while deforming the rest of the body with bones. This task requires both MorphBlender and bones. Since only the face will be changed in each of the morph targets, you should split the character into two PuppetMaster sections, one for the head and one for the rest of the body. So, now we're combining Morph Blender, bones and PuppetMaster. This could become a little hairy if we don't understand the concept of project:messiah's effects, and the options associated with them. So let's look at a specific example and see what we want to accomplish, and what kind of problems we face.

Let's assume that we have a character modeled and a skeleton set up. What we want to do now is go back and add the ability to use morph targets on the face. The character is all one piece - the head, neck and body are all seamlessly connected. (After all, if the character were segmented, we wouldn't need to combine effects). See Figure 1.

When the neck and head bones rotate, we *do* want the head to go with it. The head must continue to be deformed by the bones as well as by the morph targets. Typically, you will not want the head bones to distort the shape of the head. You'll want them to grab all of the points on the head evenly, leaving all of the deformation to the area where the neck and the head meet.

(Of course, you can obtain great squash and stretch effects if you do distort the shape of the head with the bones).

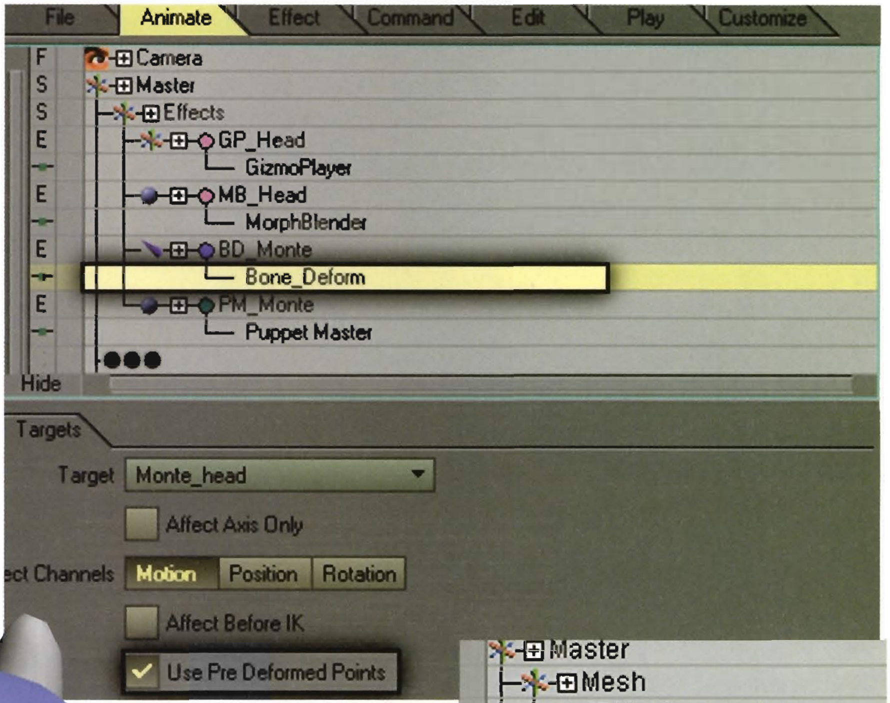
Since the bones as well as MorphBlender must deform the head, we need to consider the order that these effects should be applied. We want to morph the face first. Then, the bones will rotate that already-deformed head into position. If we did it the other way around, the morph would basically reverse the effect of the bones - not what we want.

If you have read the docs, you know that the order that the effects appear in the effects list [Effects->Modify] makes a difference. So by that logic, if the MorphBlender effect was first in the list and the BoneDeform was second; than MorphBlender would evaluate and pass that point information along to the BoneDeform effect.

With other effects that would be true, but the BoneDeform effect is a peculiar animal. Instead of taking the input from the previous effect in the list, you need to force feed the input to bones. (By "input," I'm referring to the point positions.) To do this, select and expand the BoneDeform effect (the purple dot in the Item List) and go to the Animate tab. The check box labeled "Use Pre-Deformed Points" is the "force-feed" button. (See Figure 2.)

When checked, you will force bones to evaluate any other effects that come before it in the list, and base its own effect on the mesh at that starting point. Remember, if you move the mesh object, you are changing the position of the points. Those new point positions are taken into account by the BoneDeform effect when "Use Pre-Deformed Points" is active.

Potentially, this setup can cause a problem known as "double transformation." Let's say that our skeleton is parented to some "master null" to ease the positioning of the character in the scene. And to keep things neat, the mesh objects are also parented to this master null. Now, when we move that master null, we are moving both the bones and the mesh. Since the mesh is moved, and that moved mesh is the input for the bones that will move it again, the result is two transformations when we only wanted one.



- Camera
- Master
  - Effects
    - GP_Head
      - GizmoPlayer
    - MB_Head
      - MorphBlender
    - BD_Monte
      - Bone_Deform
    - PM_Monte
      - Puppet Master

Targets

Target: Monte_head

☐ Affect Axis Only

ct Channels: Motion | Position | Rotation

☐ Affect Before IK

☑ Use Pre Deformed Points

Figure 2

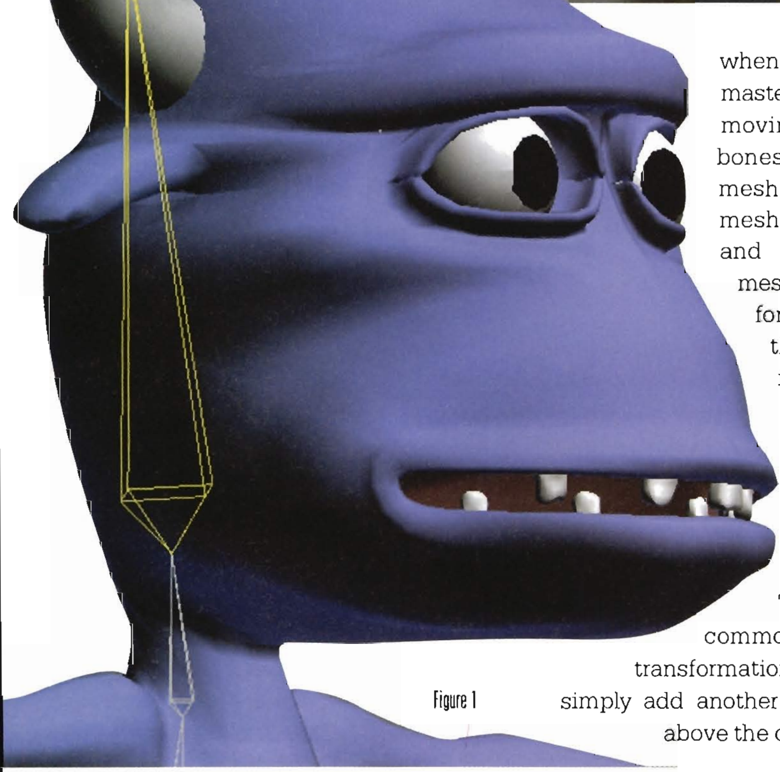
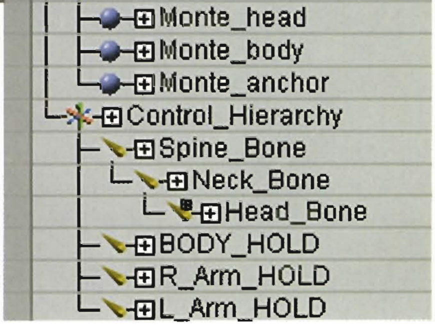


Figure 1

To avoid this common double transformation scenario, we simply add another "master null" above the one we already have, and move the mesh from the old master null to the new one. (See Figure 3.) As you can see, by moving the old master null, you are able to move the character around in the scene just as before. The addition of the new master still keeps the scene nice and neat - in fact, neater. (See the end of the article for a suggestion on how to organize your character's hierarchy).



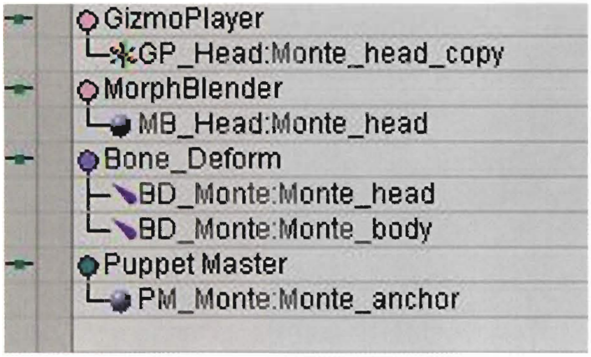
- Master
  - Mesh
    - Monte_head
    - Monte_body
    - Monte_anchor
  - Control_Hierarchy
    - Spine_Bone
      - Neck_Bone
        - Head_Bone
    - BODY_HOLD
    - R_Arm_HOLD
    - L_Arm_HOLD

Figure 3

Ok, now that we know what to consider when combining BoneDeform and MorphBlender effects, how about PuppetMaster?

Since we only want to morph the face, the morph targets should only include the head geometry. Adding the body in the targets would be wasteful. The character should be split into a head and a body section. (I won't cover the specifics of PuppetMaster or any of the other effects as we are focusing only on how they work together.) Once we've done that, we are back to the old issue of order. MorphBlender comes before BoneDeform, but where does PuppetMaster belong?

The whole reason for creating the sections was so we could morph only the head section. Therefore, we should apply MorphBlender to the head section. Since we are morphing the head, that section needs to be the input for the BoneDeform effect, making PuppetMaster the last effect. Read that over again if you need to, it is important.



```
GizmoPlayer
└GP_Head:Monte_head_copy
MorphBlender
└MB_Head:Monte_head
Bone_Deform
├BD_Monte:Monte_head
└BD_Monte:Monte_body
Puppet Master
└PM_Monte:Monte_anchor
```

Effects

Now where do we stand? Well, MorphBlender should be applied to the head section, BoneDeform should be applied to *both* the head and body sections (not the anchor!), and PuppetMaster from the head and body sections to the seamless anchor.

One last thing, what if you really like the old Morph Gizmo? Or you wish to convert a LightWave animation over to project:messiah, and you used Morph Gizmo on the face? Well, we already have three effects in the soup, might as well stir in a fourth.

But wait, we already have MorphBlender on the head, how do we include GizmoPlayer? The best way is to add a target to the MorphBlender effect and put the GizmoPlayer effect on it. We need to tell MorphBlender to use the GizmoPlayer-deformed mesh instead of the non-deformed version. Select the MorphBlender effect and go to the Animate tab, and set the "Target uses:" option to "Transformed points." Then, set the weight of this morph target to 1.0, so that it is always at full weight.

All right, soup is done. Let's apply the recipe on an actual setup. For this example, I'll be using our good friend Monte (generously donated by Thad Clevenger). First step: go into modeler and cut his head off!

Now we have three objects, the anchor (all of Monte, not decapitated), the head, and the body. Load all three objects into project:messiah as shown in Figure 3.

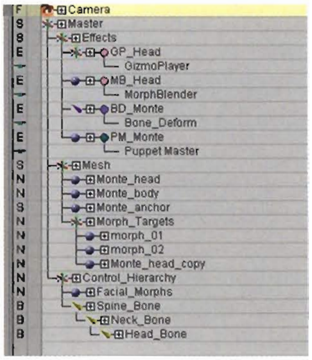
Make sure you create the same hierarchy as shown in the figure.

Select the head section and add a MorphBlender effect.

Select the MorphBlender effect and under the Animate tab set "Targets use" to "Transformed Points."

Convert your morph targets to clusters (see manual if necessary). Also convert an extra copy of the head to clusters. This extra copy will have the GizmoPlayer effect added to it.

Go ahead and add the GizmoPlayer effect to that copy of the head; and under [Effects->Modify], move the GizmoPlayer effect above the MorphBlender effect to insure that it processes first. (As with all of the effects, please consult the manual if you are unfamiliar with a particular effect type.)



```
Camera
Master
  Effects
    GP_Head
      GizmoPlayer
    MB_Head
      MorphBlender
    BD_Monte
      Bone_Deform
    PM_Monte
      Puppet Master
  Mesh
    Monte_head
    Monte_body
    Monte_anchor
    Morph_Targets
      morph_01
      morph_02
      Monte_head_copy
  Control_Hierarchy
    Facial_Morphs
    Spine_Bone
      Neck_Bone
        Head_Bone
```

Hierarchy

Now that we have finished the setup, add the skeleton by adding a Bone Deform effect to the head section.

Under [Effect->Modify], add the body section as a target of the BoneDeform effect we just added. Add the bones to the skeleton. For the sake of simplicity I'm only adding a spine.

To make MorphBlender work with this BoneDeform effect, select the BoneDeform effect and go to the Animate tab. In the popup next to the label "Target," select the head section and check "Use Pre Deform Points."

Finally, add the PuppetMaster effect to the Anchor object and convert the head and body sections to PuppetMaster clusters. That's it!

Even though the actual steps involved in this tutorial are pretty simple, the concepts behind them are complex. Before attempting to combine this many effects on your character, I would recommend that you break the setup down. Isolate what each effect will do and what other effects it will be dependent on. Taken as a whole, the problem can be daunting; but when broken down to components, the task is much clearer.

For a review of the effects used in this tutorial and how we arranged our hierarchy, study the Hierarchy and Effects Figures. This method of keeping the actual control hierarchy as a branch separate from all of the mesh objects, as well as all the effects, has proven to be very convenient.

Now what if we added…?

Ron Griswold is the lead Character TD (technical director) with pmG. You can find him on the messiah mailing list or at ron@projectmessiah.com

Game Developers Conference
March 20-24, 2001
San Jose, CA

innovation. interaction. inspiration.

Shape the future of game development.

The Game Developers Conference is *the* independent and unbiased forum where game development professionals from around the world converge to share ideas and create the next generation of interactive entertainment.

GAMEDevelopers
CONFERENCE 2001

www.gdconf.com

Web #128

B&H
PHOTO - VIDEO - PRO AUDIO
Pro Video Tripods
Panasonic
NITORS
SONY Panasonic JVC

420 Ninth Ave.

Between 33rd & 34th Streets,
New York, N.Y. 10001

Store and Mail Order Hours:
Sun. 10-5, Mon. thru Thurs. 9-7
Fri. 9-1, Sat. Closed

For Orders Call:
800-947-9938
212-444-5038
or FAX (24 Hours):
800-947-9003
212-444-5001

www.bhphotovideo.com
We Ship Worldwide

VISIT OUR SUPERSTORE

QUICK DIAL 74

SONY

DCR-VX2000

3-CCD DV Camcorder with LCD Monitor

The new **DCR-VX2000** is based on the highly acclaimed DCR-VX1000 Digital Video camcorder Offering higher resolution, wider color bandwidth, and lower noise than virtually any other analog format with many new innovative features

- **Advanced 'HAD' CCD Technology** High quality HAD design CCD imager that reduces noise in the video signal to improve signal-to-noise ratio by up to 2X that of conventional CCDs.
- **Progressive Scan CCD System** capture a complete frame of video rather than interlacing two separate fields to produce a video frame.
- **Up to 530 Lines of horizontal video resolution** Using 3 Advanced HAD CCDs combined with advanced design technologies, provides stunning performance.
- **58mm Aspherical Lens** Professional quality glass optics provides exceptional detail and clarity.
- **12X Optical/48X Precision Digital Zoom** Helps bring the action close up from far away. Precision Digital Zoom technology means that extreme digital zooming is cleaner and clearer than ever before.
- **Optical Super SteadyShot® Picture Stabilization** Eliminates high frequency shake and vibration without compromising picture quality.
- **16:9 Widescreen recording** Allows the user to record in a true 'widescreen' or anamorphic aspect ratio.
- **1/4 to 1/10,000 Shutter Speeds** (AE Mode)
- 2 Position Neutral Density Filter
- **12/16 Bit PCM Digital Audio** 12-bit dubbing capability enables you to add additional stereo music or narration without disturbing the original soundtracks.
- **2.5" Precision SwivelScreen™ LCD Display** (200k Pixels)
- **Precision Color Viewfinder** (180k Pixels)
- **Interval Recording** Allows the user to record video in preset intervals ranging from every 30 sec, 1, 5, 10 minutes for selectable lengths of .5, 1, 1.5 or 2 seconds.
- Manual Mic Level control • Frame Recording Mode
- 6 Picture Effects • 5 Digital Effects
- **Still Imaging Features** Memory Mode Digital Still camera function using Memory Stick® Digital Media ~~Capture VGA resolution (640 x 480) still images and~~ store them on removable Memory Stick storage media. A 4MB Memory Stick supplied.
- MSAC-US1 USB reader for Memory stick digital media
- Memory Mix Allows the user to super-impose a still image that has been recorded to a Memory Stick on top of the video you are recording.
- **Analog Recording Inputs** Convert or record any NTSC video source to DV via the phono and S-video analog inputs. • Intelligent Accessory Shoe
- PictureGear™ 4.1 Lite Software Included
- **Stamina Power® Management System** 9 Hours (using optional NP-F960) • Color Bar Generator
- i.LINK® (IEEE-1394) DV Interface
- **Analog to digital conversion with pass through**
- **Weight** 3 lbs 1 oz **Size:** 4 5/8" x 5 3/4" x 13 1/2"

Canon

XL-1 3-CCD Camcorder with Interchangeable Lens Mount

With 3-CCDs, exclusive interchangeable XL Lens Mount System, unmatched optical technology, SuperRange Image Stabilizer, DV and simultaneous four channel audio recording, the XL-1 offers unmatched image quality and shooting versatility.

Interchangeable XL Lens Mount System

- Interchangeable XL lenses for unsurpassed flexibility and multi-coated optics to achieve 600 lines of resolution.

16:1 Optical Zoom with SuperRange Image Stabilizer

- The 16:1 has a focal length range of 5.5 to 88mm (35mm equivalent of 39 to 633mm). It offers variable speed zoom, manual zoom and manual focus control and has a one-push auto-focus button and built-in 1.5X ND filter.
- The SuperRange Optical Image Stabilizer uses a motion vector to examine the image after it is received by the CCD to detect any shake.

Digital Audio

- Three digital audio modes (16 bit and two 12 bit modes) and simultaneous recording of four separate tracks You can output each signal independently.
- Audio inputs with independent level controls.

3-CCDs

- Three 270,000 pixel CCDs with advanced Pixel Shift technology achieves 530 lines of resolution.
- Large 72 micron CCDs deliver a 4dB improvement in sensitivity.

Three Recording Modes:

Unique Design & Dual Action Carrying Handle

Additional Features:

- 180,000-pixel color viewfinder
- Automatic and manual white balance, gain (five preset levels from -3 to +12dB) and exposure lock.
- Zebra pattern and color bar generator
- Composite, S-Video output, DV (IEEE 1394) in/out, Control L
- Digital fader and wide screen TV effect
- Headphone jack with level adjustment
- Remote control with jog/shuttle dial

GL-1 The First Digital Video (DV) Camcorder with PRO L-Series Fluorite 20X Zoom Lens

Building on the company's design heritage in professional 35mm photographic and broadcast TV lenses, the GL1 is equipped with Canon's exclusive L-Series Fluorite 20X optical zoom lens and 3 CCD image sensors, offering outstanding imaging power in a lightweight, portable design. In addition the GL1 also incorporates the world's first 20X optical zoom. With the cameras ability to extend to a 100X digital zoom, users can increase magnification too distant to be seen with the eye alone. Encompassing the design characteristics of a consumer camcorder with its compact size and 2.5" flexible LCD view screen, color viewfinder, the GL1 is also equipped with much of the same functionality that attracts newscasters and independent filmmakers. By extending broadcast-quality DV technology to prosumers, Canon is bringing high-quality video production capabilities to homes and small businesses. For users interested in visual computing, this FireWire IEEE 1394 compatible camcorder is ideal for producing QuickTime movies and creating images for distribution via the Internet. FireWire is one of the fastest peripheral standards in the DV industry, offering 30 times more bandwidth than USB, allowing for high-speed desktop video editing and display.

- Professional L-Series Fluorite Lens - a material that provides outstanding resolution, contrast and color reproduction and minimizes color aberration, especially in high-magnification lenses.
- 20X Optical Zoom - At a 35mm focal length equivalent of 40 - 806mm, the 20X optical zoom transforms distant subjects into, dramatic close-ups.
- 100X Digital Zoom - capable of extending between 40X - 100X. At full telephoto, the 35mm focal equivalent is 80-600mm.
- Optional WD-58 Wide-converter - will increase by 0.7X, 28mm in 35mm focal equivalent, for indoor shots or panoramic views.
- Optical Image Stabilization - eliminates image shake due to a wide range of movement and/or high wind conditions.
- Three Shooting Modes -Frame Movie mode allows users to record high-speed action at 30 fps. - Normal Movie mode delivers more than 500 lines of resolution - Digital Photo mode, with self timer, captures more than 700 still frame images on a single 80-minute cassette in SP mode. For SLR-style flash photography, the digital photo mode will accommodate a selection of Canon's speedlight flashes, including the 220EX, 380EX or 550EX.
- Direction Accurate Microphone.
- Programmed AE - Offers seven advanced recording controls -Full Auto Green Zone -Auto Mode -Manual Mode -Spotlight -Sand & Snow -Shutter Priority/Aperture Priority
- Picture Adjustment Supports -Camera Sharpness adjusts picture sharpness before recording.

QUICK DIAL 74

SONY

DSR-PD100A

3-CCD Mini DVCAM Camcorder

The smallest DVCAM camcorder, the DSR-PD100 is also the first one with built-in image capture capability. The highly compact camcorder features three 1/4" 380,000 pixel CCDs that allow two scanning modes: 480 progressive (for stills) or interlaced (for video).

- The CCD's can be switched to scan in two ways: Interlace Scan for recording moving images and Progressive Scan for recording still images
- Super SteadyShot compensates for unwanted camera movement without reducing image quality
- A built-in 12X zoom lens is supplemented by a 48X digital zoom that can provide really close up shots
- Manual control of focus, gain, white balance and shutter speed. Also has full automatic control
- Records PCM digital stereo sound in both 48 kHz mode(16-bit) and 32kHz mode (12-bit). When a recording has been made in 12-bit mode, another stereo channel can be added later
- The DSR-PD100 has a 3.5" color LCD monitor with 184,000 pixels, opening 90° to the side and swiveling 180°. Also has a 180,000 pixel color viewfinder.
- Can record still images on both tape or removable media, such as Memory Stick
- Supplied XLR adaptor attaches onto the hot shoe of the camcorder, allowing external professional microphones to be connected to provide high quality audio sources. Through XLR adaptor, DC power (+48V for a microphone is also supplied from the DSR-PD100
- A 0.7X wide conversion lens is supplied, complete with lens hood, lens cap and protective bag
- Incl. 4 MB Memory Stick & Memory Stick/PC Card Adaptor

DSR-PD150

3-CCD Mini DVCAM Camcorder

High quality acquisition in the DVCAM component digital format, as well as in DV, allowing up to forty minutes recording on one tape Mini DVCAM tape or over a full hour inthe DV mode. Suited for Event Videography and Video Journalist applications. This compact camcorder features three newly developed 1/3 inch 380K pixel CCDs.with increased resolution and sensitivity at reduced noise and vertical smear.

- Allows two scanning modes: 480 progressive (for still) or interlaced (for video).
- Complete Professional Audio functions with two built-in XLR inputs.
- Built-in electronic zoom lens features Autofocus and SuperSteadyShot with an MTF 12X high quality optical lens with manual Zoom, Focus and Iris control.
- Built-in slot for a flash memory card or Memory-Stick for still image storage. Up to 988 JPEG pictures can be stored in one 64 MB MemoryStick. The stored images can be mixed or keyed to the live image allowing logo insertion and/or mix effects.
- High resolution (500 lines) 8&W viewfinder and a color swing out bright color LCD panel are included to make shooting a breeze.• Software package for logo generation and included USB port adapter are standard.

JVC® GY-DV500

1/2-inch 3-CCD Professional DV Camcorder

The world's first DV camcorder designed from the ground up for professional ENG work, the GY-DV500 combines the convenience and cost-effectiveness of Mini DV with the performance and features you need. Incorporate three 1/2-inch 380,000 pixel IT CCDs for superior picture performance (equivalent to 750 lines of resolution) superb sensitivity of F11 at 2000 lux and minimum illumination of 0.75 lux (LoLux mode). Rugged construction with a rigid diecast magnesium housing. Extremely portable, compact and light weight (lesss than 11 lbs. fully loaded). Additional features like the menu dial and Super Scene Finder assure ease-of-use and shooting flexibility, while the IEEE1394 and RS-232 interface allow integration into various non-linear and post-production systems. A professional camcorder in every sense, the compact, lightweight GY-DV500 redefines acquisition for corporate, educational, cable and broadcast production, as well as wedding videography and multimedia applications.

Professional Specifications

- Applies JVC's DSP with advanced 14-bit video processing to bring out more natural details, eliminate spot noise, accurately reproduce dark areas, and restore color information in dark areas.
- CCDs are equipped with advanced circuitry to virtually eliminate vertical smear when shooting bright lights in a dark room. Ensures efficient light conversion with a sensitivity of F11 at 2000 lux.
- CCD Defect Correction function evaluates white defects with the lens closed and then stores their addresses in memory. When the camera is turned on, the data is sent to the DSP for storage and real-time correction.
- Black Stretch/Compress function ensures accurate reproduction of black areas on the screen. Advanced color matrix circuits give even difficult images a very natural appearance.
- Multi-stream parallel digital pipeline processing at 40 MHz creates an ultra-smooth gamma curve, calculated using a true log scale algorithm. The result is a dynamic range of 600% to accurately reproduce fine details and colors in shadows or highlights.

Professional Performance

- Multi-zone iris weighting system gives priority to objects at the central and lower portions of the picture for accurate auto exposure under any condition, even if a bright subject moves into the picture.
- Adjustable gamma for adjusting the "feel" of the picture according to taste. Adjustable detail frequency for setting picture sharpness for a bolder or finer look.
- Viewfinder status display uses characters and menus to diplay selected information, including audio indicator, tape and battery remaining time, VCR operation and warning indicators. Camera settings and setup parameters can also be checked at a glance. A built-in menu dial lets you quickly navigate through the viewfinder menu.
- Highlight Chroma Processing maintains color saturation in highlights. The result is natural color reproduction, even in bright highlight portions of the picture.
- Smooth Transition mode ensures a smooth transition with no jump in color or light level taking place when manually changing gain or white balance settings

Professional Audio

- To complement its superior video performance, the GY-DV500 offers outstanding digital PCM sound. You can choose between two 16-bit 48-kHz channels or two 12-bit 32-kHz channels with a dynamic range of 85 dB.
- In addition to camera mounted mic, has two XLR-balanced audio inputs with 48v phantom power and manual audio control.Phantom power can be switched off when not in use.
- Side-mounted speaker lets you monitor audio in playback and recording modes without headphones. The speaker also delivers audible warnings.

Web #107

B&H PHOTO - VIDEO - PRO AUDIO

THE PROFESSIONAL'S SOURCE FOR PHOTO,

FOR ORDERS CALL:
800-947-9938
212-444-5038

OR **FAX** (24 HOURS):
800-947-9003
212-444-5001

Store & Mail Order Hours:
Sunday 10-5
Monday thru Thursday 9-7
Friday 9-1 • Saturday Closed
www.bhphotovideo.com

SONY

QUICK DIAL 74

DSR-250 3-CCD DV & DVCAM

Introducing everything you need in an event camera and more. The new completely digital DSR-250 from Sony is a high image quality reduced size camcorder which has been optimized for shooting events and parties. Every feature you could want is included in this revolutionary acquisition tool.

- **1/3 Inch x three 380K pixel** (effective 340,000 pixels) **CCD's** that allow two scanning modes: 480 progressive (for still) or interlaced (for video). They also provide high quality acquisition with increased resolution and sensitivity at reduced noise and vertical smear.
- **530 lines of horizontal resolution**, allowing you to capture your subject with tremendous detail.
- **Switchable aspect ratio** 4:3 (TV mode) or 16:9 (Movie mode)
- **DXF-801 high resolution 1.5" black & white viewfinder** (same as on DSR500/1 & DXC-D35) enables easier focusing. Automatically switches from 4:3 aspect to 16:9.
- **Records in DVCAM or DV**, standard tapes or mini. Up to 270 minute recordeding in DV mode onto a 184 min. DVCAM tape.
- One touch auto focusing in manual focus mode.
- Manual or automatic functioning: Focus, Iris, Shutter-speed, Zoom, Gain (3 positions and memory).
- **Flip out 2.5"** 200,000 dot **LCD monitor**, finally available on a professional camera • Time date stamp.
- **58mm lens** with **12x optical zoom**.
- **Advanced optical stabilization** allowing for a high quality digital zoom out to 24x, with a maximum digital zoom out to 48x
- **Assignable time code** (Rec Run, Free-run, User-bit)
- 16 bit 2 channel audio recording, or 12 bit 4 channel.
- **Digital In/out** (IEEE1394) and **analog in/out.**
- **Still Image capture onto memory stick** • Upload graphics from memory stick or USB adapter, software included
- Phantom 48V power • Built in speaker • Directional microphone in pro mic holder, 2 XLR audio inputs
- **Built in edit controller.** Equipped with an i.LINK interface, allowing camcorder to serve as edit player or recorder.
- Soft shoulder pad. • **Wireless remote controller.**
- Uses sony's lithium Ion batteries (BPL series).
- External 12V supply/Connection for light. The DSR-250 is equipped with light output (DC 12 V, maximum 30 watts).

DSR-300A
3-CCD Digital (DVCAM) Camcorder

Inheriting many of the same features and functions as the DSR-130, the affordable DSR-300A actually extends operational convenience with a range of new features and peripheral products. Remarkably compact and lightweight, the improved DSR-300A provides high mobility without compromising picture quality and can be held comfortably on your shoulder through the longest shoots and gives videographers the ability to acquire their footage quickly and easily.

- The DSR-300A has three 1/2" IT Power HAD CCDs to deliver 800 lines of horizontal resolution, 62dB S/N ratio and high sensitivity of F/11 at 2000 lux.
- Power HAD CCDs also gives you a low smear level of -110 dB (DSR-300) allowing more freedom to shoot highlighted subjects
- With built-in 26-pin VCR interface, they can feed composite or S-Video output signals to an external recorder for parallel or back-up recordings. VCR recording modes including Parallel, Internal (only) and External (only) are selected via the trigger switch positioned on the operational panel
- With the DSR-300A, a picture previously recorded on tape can be superimposed on the viewfinder screen (Freeze Mix Function), allowing you to easily frame or reposition the subject just as in the previous shot. Combined with the SetupLog function, the retake shot becomes a breeze
- LSI Digital Signal Processor (the very same one used by the DXC-D30 cameras) for a high signal-to-noise ratio of 62 dB.
- Both mini cassettes (PDVM series) and standard cassettes (PDV series) can be used with the DSR-300A. With PDV-184ME (standard), a maximum recording time of 184 minutes can be acheived. They can also play back tapes recorded in the consumer DV format
- For operational convenience while shooting, the Time Code is superimposed on the viewfinder screen or MONITOR OUT screen, even during playback
- DXF-801 viewfinder featuring variable peaking, 3 level tally light and a white LED light with 2 levels of intensity to illuminate the lens setting • IEEE1394 i.Link (out only)
- Color Temperature Shift allowing the operator to manually shift the white balance either towards blue or red to compensate for conflictive (color temp mix) and because of the wide range it also provides creative artistic painting

DSR-20/40 DVCAM Player/Recorders

The DSR-20 and DSR-40 are versatile DVCAM VCRs with compact chassis' and a variety of convenient functions for recording, playback and simple editing. They feature Auto Repeat Playback, Power-On Recording/Playback, multiple machine control interfaces and i.Link (IEEE1394) input and output. And, of course, they offer the stunning image and sound quality inherent to the DVCAM format.

- **i.LINK** They both offer i.LINK ((IEEE1394) input/output. In addition, in the "Digital dubbing including TC Copy" mode, full information of video, audio and time code of the original tape can be copied to another tape. Especially useful when making working copies of the original.
- **Inputs and Outputs** They provide a full range of analog video inputs and outputs for integration into current analog-based systems. They both offer composite and S-Video input/output, while the DSR-40 (only) offers a component output as well. The DSR-20 is equipped with analog audio inputs and outputs (RCA), the DSR-40 with RCA inputs and XLR-balanced output. These connections in combination with their i.LINK interface allow a smooth transition to an all digital system in the future.
- **Record/Playback Functions** Automatic repeat function for repeated playback. After reaching the end of the tapet, the DSR-20/40 automatically rewinds the tape, then starts playing back the segment again.
- They are capable of searching for Index Points, which are recorded on the tape as "in-point" marks every time a recording starts. They can also search for photo data recorded on a DVCAM cassette by the DSR-200A/300/PD-100, or where the recording date has been changed.
- **Reference Input** External sync input enables synchronized playback with other VCRs. Especially important in A/B Roll configurations. In addition, the DSR-40 only allows adjustment of H-sync and SC phase via the menu.
- **Control S Interface** The DSR-20/DSR-40 have a Control S input allowing control via the optional DSRM-20 Remote Control.
- The DSR-20 adds a **Control S output** connector allowing two or more (up to 50) DSR-20s to be daisy-chained and controlled from one DSRM-20.

DSR-20 Only • The DSR-20 can be powered by AC or DC.
- Equipped with Control L interface, the DSR-20 can perform simple Time Code-based editing when connected to another DSR-20 or other similarly equipped VCRs/cameras.
- In addition to Control L, the DSR-20 also incorporates an RS-232 interface for remote control of basic VCR functions from a PC.
- Supplied with the RMT-DS20 Wireless Remote for control of basic VCR functions.

DSR-40 Only • Equipped with an RS-422A interface, it can perform as the editing player in A/B roll or cut editing system.
- It also has a simple recording function which can be controlled either manually or via its RS-422A interface.
- The DSR-40 is not equipped with a synchronization capability, the editing accuracy is performed by pre-roll and play.

DSR-30 DVCAM Digital VCR

The DSR-30 is an industrial grade DVCAM VCR that can be used for recording, playback and editing. DV standard 4:1:1 sampling digital component recording with a 5:1 compression ratio provides spectacular picture quality and multi-generation performance. It has a Control L interface for editing with other Control L based recorders such as the DSR-200A DVCAM Camcorder or another DSR-30 . It also has a continuous auto repeat playback function making it ideal for kiosks and other point of information displays.

- Records PCM digital audio at either 48kHz (16-bit 2 channel) or at 32kHz (12-bit 4 channel) .
- Equipped with Control L, capable of SMPTE Time Code based accurate editing even without an edit controller. Built in editing functions include assemble and separate video and audio insert .
- By searching for either an Index point or Photo Data recorded by the DSR-200A camcorder, the DSR-30 drastically cuts the time usually required for editing. The DSR-30 can record up to 135 Index points on the Cassette Memory thanks to its 16K bits capability.
- Audio lock ensures audio is fully synchronized with the video for absolute precision when doing an insert edit.
- Built-in control tray has a jog/shuttle dial, VCR and edit function buttons. The jog/shuttle dial allows picture search at ±1/5 to 15X normal speed and controls not only the DSR-30 but also a player hooked up through its LANC interface
- DV In/Out (IEEE 1394) for digital dubbing of video, audio and data ID with no loss in quality.
- Analog audio and video input/outputs make it fully compatible with non-digital equipment. Playback compatibility with consumer DV tapes allows you to work with footage recorded on consumer-grade equipment. Tapes recorded in the DSR-30 are also compatible with Sony's high-end DVCAM VCR's.

Apple Authorized Reseller

Power Mac G4

Simply the fastest desktop computer ever, the G4 is designed for creative professionals who use computers as the pivotal tool of their trade, setting the pace of their work, their productivity, even their success. It features the revolutionary PowerPC G4 with Velocity Engine, which crunches multimedia data at blazing-fast speeds. The Velocity Engine uses true independent vector processing-a technology originally developed for use in scientific supercomputers. The result is unprecedented productivity for creative professionals-in the arts as well as the sciences. With its Pentium-crushing speed (easily running up to a stunning 50% faster than a 1000MHz Pentium III-based PC.) the new Power Mac G4 picks up where the best-selling original Power Macintosh G4 left off.

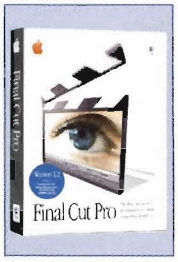
Features
- 1 MB of backside level 2 cache running at half the processor speed
- ATI RAGE 128 graphics card with 16MB of graphics memory supporting up to 1200x1600 resolution
- Support for up to 1.5GB of PC100 SDRAM
- Support for more then 200 GB of internal hard disk storage
- Four expansion slots including Three 64-Bit PCI slot and one Graphic card slot
- Two 400-MegaBit-per-second FireWire ports for connecting Digital Video Cameras, hard disk drives and other high speed multi media peripherals
- Two USB (Universal Serial Bus) ports for connecting up to 127 peripherals

G4/400 (M7891LL/A)
- 400MHz processor speed
- 64 MB SDRAM memory
- 20GB ultra ATA/66 Hard Drive
- DVD-ROM Player
- Two firewire 400-Mbps ports
- Two USB 12-Mbps ports
- 10/100/1000 BASE-T Ethernet card • Built-in 56K modem

G4/450 (M7892LL/A)
- Dual 450 MHz processors
- 128 MB SDRAM memory
- 30GB ultra ATA/66 Hard Drive
- DVD-ROM Player
- Two firewire 400-Mbps ports
- Two USB 12-Mbps ports
- 10/100/1000 BASE-T Ethernet card

G4/500 (M7893LL/A)
- Dual 500 MHz processors
- 256 MB SDRAM memory
- 40GB ultra ATA/66 Hard Drive
- DVD-RAM (5.25 GB) recorder
- Two firewire 400-Mbps ports
- Two USB 12-Mbps ports
- 10/100/1000 BASE-T Ethernet card

Final Cut Pro
Professional Editing, Compositing and Effects Software for Macintosh



A breakthrough in non-linear video, Final Cut Pro combines professional editing, compositing, and special effects in one powerful application— turning a Power Macintosh into a powerful workstation. Designed from the ground up for DV, Final Cut Pro offers the easiest way to transfer material from DV sources to your hard disk; edit, composite, and add effects to the video and audio; and play the results. It has an advanced feature set that professionals will love, yet it's also easy enough for novice video producers who are just discovering DV and FireWire.Final Cut Pro supports DV and all QuickTime formats, including M-JPEG and web-ready streaming video. It provides plug-and-play capabilities with most digital video cameras. It supports unique DV features such as non-square pixels and audio/video interleaving. Just connect your computer to a DV camcorder, capture video and edit it with sophisticated tools such as three-point editing, match frame, and multitrack trimming. Create multiple layers of video using text, graphics, or additional video elements. Each layer can be still, or animated along a user-defined path using tools such as Bézier curves with acceleration control. Apply time-varying filter effects, such as blur, to any layer, and mix and synchronize multiple audio tracks—up to 99 tracks per movie. Then you can output your results for TV, videotape, QuickTime movies, or the Web.

Final Cut Pro is Compatible with the Pinnacle MiroMotion DC30 for analog capture. And with the Aurora Igniter Card for analog and Component capture.

989.95

Good System..4,899.95
Includes:
- Apple G4/400 Computer
- Final Cut Pro version 1.25 editing software
- Total of 192MB of memory
- Additional 45GB of ATA/66 storage
- Final Cut Tutorial CD
- Mitsubishi Diamond Pro 2040 22" Monitor
- Apple Care-three year warranty
- Complete System integration and testing

Great System .5,995.00
Includes:
- Apple G4/450 Dual Processor
- Final Cut Pro version 1.25 editing software
- 45GB of ATA/66 storage
- Total of 256MB of memory
- Final Cut Tutorial CD
- Mitsubishi Diamond Pro 2040 22" Monitor
- Apple Care-three year warranty
- Complete System integration and testing

Best system ...8,995.00
Includes:
- Apple G4/500 Dual Processor
- Final Cut Pro v1.25 editing S/W
- 150GB (2x75) of ATA/66 storage
- VST Ultratrek 66 IDE controller card
- ATI Rage Orion dual display card
- Total of 256MB of memory
- Artel Boris FX 5.0 Effects program
- Final Cut Tutorial CD
- 2 Mitsubishi Diamond Pro 2040 22" Monitors
- Apple Care-three year warranty
- Complete System integration and testing

45GB 7200 RPM Ultra ATA/100 Hard drive	299.95	**128 MB memory module**	149.95
60GB 7200 RPM Ultra ATA/100 Hard drive	449.95	**256 MB memory module**	319.95
75GB 7200 RPM Ultra ATA/100 Hard drive.	599.95	**Imation 3.5" Floppy Drive**	99.95
EZ-Quest 30GB 7200 RPM Ext. Firewire drive	424.95	**Keyspan USB to Serial Adapter**	89.95
EZ-Quest 60GB 7200 RPM Ext. Firewire drive	749.95	**Griffin iMate USB-ADB Adapter**	54.95
EZ-Quest 75GB 7200 RPM Ext. Firewire drive	849.95	**Apple Final Cut training CD**	99.95

PINNACLE SYSTEMS
CinéWave

CineWave Includes: • Commotion Pro • Hollywood FX Bronze

Pinnacle Systems CineWave is the revolutionary new non-linear editing package that delivers the power of true uncompressed video with Apple's Final Cut Pro. Using Pinnacle's new HUB3 video processor, the CineWave combines infinite layering, incredible effects, advanced compositing tools and accurate motion tracking with all the major video formats in compressed or uncompressed video. Based on the new dual processor Apple G4's, CineWave delivers the worlds first scaleable desktop video system capable of outputting both Standard Definition and High Definition simultaneously. CineWave delivers compressed or uncompressed video and balanced or unbalanced audio ranging from NTSC/PAL, CCIR-601 or HD, YUV or RGBA, 4:2:2 or 4:4:4:4, interlaced or progressively scanned, using aspect ratios of 4:3 or 16:9 to output to tape, CD, DVD or streaming media files using Pinnacle's unique memory-centric architecture. The CineWave also has real-time 3:2 pull down for 24-30fps conversion. At the base of this system is Pinnacle's new Targa Cine Engine with two Digital Tether ports for plug and play capabilities to easily upgrade the CineWave from analog to serial digital or from standard definition to high definition with optional breakout boxes.

Minimum Shipping USA (Except AK & HI) $6.95, up to 1 lb. Add 75¢ for each additional lb. For ins. add 50¢ per $100. © 2000 B&H Photo - Video. Prices are valid subject to supplier prices. Not responsible for typographical errors.

DigiEffects

Cinelook

Film Simulator Plug-in for Adobe Effects

Cinelook is a revolutionary tool that takes any video, computer animation, film-scan or photo and allows you to add grain, correct color and add film artifacts like dust, scratches, stains, hair and more. Cinelook is designed for video producers who needs to match video footage or 3D animation with film footage or to get that "film look" by adding film-grain to video or computer animation. It can also reduce film grain to better integrate scenes in film production. Cinelook allows you to take any video footage (S-VHS, Hi-8, Betacam SP, DV) and make it look like film by emulating all of the popular film-stocks and performing advanced color correction. It uses the enhanced timing controls in After Effects to convert 30 fps footage to 24 fps in order to simulate 35mm and 16mm film, and 12 fps for 8mm film. This process in known as "inverse-telecine" and is integral to achieving the "film look". CineLook uses several other technologies, including StockMatch, which adds grain to the RGB channels separately, Chromamatch, a color matching and correction system. And TimeMatch an advanced time matching system, that simulates the shutter blur of film thus creating a softer, more filmic appearance to video footage than what can be achieved by AE.) Cinelook is available in two versions, Broadcast and Film Res. And is available for both Windows and Mac.
Broadcast version limited to 768 x 576 pixels (D1).
Film Res version adds a de-grain filter, and works up to 4K by 4K resolution. **$659.95**

Delirium Plug-in for after effects

An amazing set of plug-ins for After Effects, Delirium has over 45 separate tools that will make your video and motion graphics work stand out. Create natural phenomenon like snow storms with flakes that fall naturally on any logo or image. Or generate spectacular particle-based "fire" and "smoke" as well as lens flares, motion graphic elements, gun muzzle flashes, lighting effects and much more! **$549.95**

Cinemotion

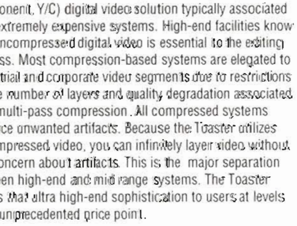
Tools for Simulating Film Motion, Controlling Noise and More

CineMotion is a set of 10 plug-ins for After Effects MacOS that allows you to take any video footage (S-VHS, Hi-8, Betacam, DV) and make it move like film, reduce or enhance grain, diminish interlace flicker, create film-aspect ratios, perform posterization effects and lessen color banding artifacts.

All plug-ins have presets, so you can get started quickly. You can also save your own presets, and trade them with others or use the on other projects. CineMotion was designed to allow video producers to give thier productions the motion of film with complete flexibility and control.CineMotion is a great companion to DigiEffects award-winning product, CineLook. The Film Motion plug-in creates a much enhanced version of the standard 3:2 pulldown for After Effects. **$279.95**

Video Toaster

Tools for Broadcasting and Beyond



With a suite of tools for video creation including all the essential components for video editing, compositing and 2D/3D animation, the Video Toaster is an uncompressed D1 (composite, component, Y/C) Windows NT solution that offers a price/performance equation unmatched in the industry. Unique to the Video Toaster is a breakthrough technology developed by NewTek that turns a standard Pentium II or III processor into a highly specialized video DSP (digital signal processor) for time base correction and other capabilities typically associated with expensive custom chipsets. Superior to systems that cost tens of thousands of dollars the Video Toaster includes LightWave VT 3D animation software, Aura paint and compositing software and in-syncs Speed Razor 4.5 SE video editing software. Leveraging over 12 years of experience as an industry leader and pioneer in the desktop video, 3D, and 2D paint and animation markets, NewTek has created a product that contains award winning tools for creating better than broadcast quality television....at an unbeatable price!

Uncompressed Video— No Compromises

- The Video Toaster offers quality that's second to none. ALL video is ALWAYS stored in its native, uncompressed D1 video format. Unlike other boards that show compression artifacts, the Video Toaster maintains the original pristine quality no matter how many layers in your project.
- The Video Toaster allows you to manipulate uncompressed video in many ways, including traditional 2D compositing, rotoscoping, 3D animation and modeling and editing. By merging video into a 3D compositing and animation environment, editors will find a new paradigm for video effects and manipulation. The quality and capabilities of the Toaster are comparable or better than digital video editing costing $50.000 to $100.000.
- The Toaster provides an uncompressed D1 (composite, component, Y/C) digital video solution typically associated with extremely expensive systems. High-end facilities know that uncompressed digital video is essential to the editing process. Most compression-based systems are elegated to industrial and corporate video segments due to restrictions on the number of layers and quality degradation associated with multi-pass compression. All compressed systems produce unwanted artifacts. Because the Toaster utilizes uncompressed video, you can infinitely layer video without any concern about artifacts. This is the major separation between high-end and mid range systems. The Toaster brings that ultra high-end sophistication to users at levels at an unprecedented price point.

Powerful Editing

Video Toaster includes in-sync's powerful editing application, Speed Razor 4.5 SE.

- Project timeline that lets you easily create professional video projects containing unlimited layers of video, audio, still image files and animation.
- Comprehensive 2D compositing system
- The ability to capture, edit and output to uncompressed video and other formats, including ASF for video streaming on the Web and multimedia AVIs.
- Graphical workspace for digital media content management
- Real-time on-screen preview of edits
- Power character generator (CG).

Toaster Utilities

VT Director—Allows any program that supports cut and paste to display an image on a NTSC or PAL video monitor. Imagine working in Photoshop and being able to display your work on a video monitor with one keyboard shortcut.

ToasterVision—Allows you to preview both video input and output as well as animation on your RGB monitor at 720 x 480 resolution and full frame rate—60 fields per second.

ToasterScope—Keep your video legal as you work on it. The built-in waveform monitor and vectorscope lets you monitor your video input and output.

ToasterKey—Use ToasterKey in Aura to paint in realtime on your video monitor. You can also paint in realtime over live video. Bring frames into Aura from a live input with the frame grabber.

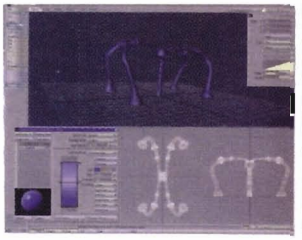
Continuously Upgradeable —Guaranteed Against Obsolesence

The Video Toaster was designed to last for years to come. Similar to the original Video Toaster for Amiga, which is still in production 10 years after its introduction, the Video Toaster utilizes a hardware system that leverages highly tuned software and the systems processor. The true power of the system comes from the proprietary software designed to create magic without the use of expensive video cards or bulky external hardware. By merging software and hardware, the Video Toaster can be upgraded and expanded well beyond current systems. NewTek will be adding modules for a real time 16-input switcher, DV I/O, storyboard editing, and ***real-time*** chroma keying and 3D DVE.

NewTek LightWave [6]

3D Animation, Modeling and Rendering Software

Explosive ideas that test the boundaries of 3D animation deserve a program that can realize them in exciting new ways.

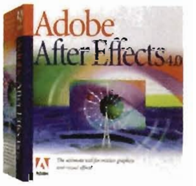


Creating worlds that no one's ever seen. Creatures that have never walked the Earth. Special effects, games, web sites - all creations that exist only in your mind. Until now............
The culmination of over ten years of development, LightWave [6] advances the state-of-the-art in professional 3D animation by adding a comprehensive set of groundbreaking character animation tools, advanced rendering capabilities, a new and improved architecture and a refined work environment. The three traditional areas of 3D, modeling, animating and rendering, have received massive enhancements in the new software. Among the thousands of changes in this completely redesigned system, LightWave [6] boasts real-time subdivision surfaces as a modeling and animation tool, radiosity, caustics, 160-bit floating-point rendering, a hybrid Inverse/Forward Kinematics engine and new character-animation technologies: LightWave, the recognized leader in the film and television industry, provides the most complete feature set of any 3D animation tool available—one of the reasons you can find LightWave 3D in more Hollywood animation suites than any other 3D program. And , LightWave [6] is the only 3D software System to run on Macintosh, Windows NT, Alpha and SGI.

After Effects

The Ultimate Tool for Motion Graphics and Visual Effects

Adobe

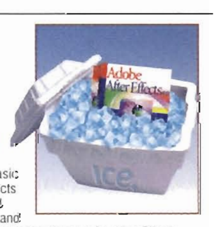


The industry-standard for professional motion graphics, After Effects is the most powerful tool available for producing unlimited composites, fluid animations and sophisticated special effects. After Effects is also resolution independent (up to 4000 x 4000 pixels) so its the ideal design tool for film and video producers, graphic designers, multimedia professionals and Web developers. Produce stunning special effects for broadcast, film, video, multimedia, and on-line production right from your desktop. Create animations for openers, bumpers, on-air promos, commercials, music videos, titles, games, and more.
When compositing, After Effects produces results that meet even the most exacting standards. Control layers with stunning precision. Combine unlimited layers of moving and still images. Produce sophisticated audio and visual effects with more than 75 effects plug-ins. Create adjustment layers to apply effects to multiple layers simultaneously. Add any number of keyframes, animate and apply special effects to each layer, and adjust those layers until the composite looks and moves exactly the way you want. Enjoy precise control over every aspect of your composite-from sub-pixel positioning to controlling the shape and velocity of each animation path. Use the new RAM Preview function to check how compositions play back-in real time. Only when you are totally satisfied do you output a project for final delivery.
Available for Macintosh and Windows 98/NT, After Effects is tightly integrated with the Adobe product family, so if you work with Photoshop, Illustrator, and Premiere, you already have the skills, shortcut know-how, and hardware you need to make Adobe After Effects a seamless, powerful extension of your creative arsenal. When you import Photoshop files, After Effects preserves layers, alpha channels, and transfer modes-you can then animate each Photoshop layer over time. Imported Illustrator files remain in vector format until you output your final composition, so you can scale these graphics to any size while maintaining the crisp detail of the original artwork. After Effects and Premiere can import each other's movies..

Ice.

After Effects on ICE

Motion Graphics and Visual Performanced Card

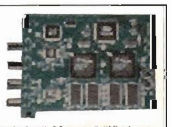


After Effects 'On Ice' provides blink-of-the-eye interactive responsiveness and lightning fast rendering across the entire application, not just with plug-in special effects filters. It gives users greater freedom to experiment in any compositing task, to perfect the right look, to complete more projects, and most important, to gain a vital edge. Along with a palette of awesome ICE effects, a must-have tool for After Effects users, AE on ICE adds performance where it is needed most — the core AE functionality of Geometrics, Compositing, and Motion Blur. So no matter if you are creating simple composites or intensive special-effects projects.

Basic Edition includes Basic BlueICE board, After Effects Production Bundle, ICE'd After Effects Application and ICEfx —ICE's own award-winning tool set for After Effects. ultra Edition adds Ultra BlueICE hardware for the most powerful graphics perfomance available on the desktop.
It also includes an assortment of popular plug-in applications for After Effects These include an ICE'd DigiEffects CineLook, ICE'd Final Effects Complete and ICE'd Edges..
After Effects Ultra on ICE 5,995.00

Basic BlueICE/ Ultra BlueICE

Hardware Accelerator Cards for ICE'd Effects



The BlueICE video processing hardware is the cornerstone for the ICE family of graphics-intensive visual effects and media compression tools. With four Phillips TriMedia 1300 processors, the Basic BlueICE card has a combined computer power that exceeds a workstation with multiple 400 MHz Pentium processors. When applications get "ICE'd" they take advantage of BlueICE's multi-processing hardware to achieve performance gains of 2x to 50x compared with un-ICE'd software. Visual effects are rendered faster and files are compressed faster.

- The Basic BlueICE board works in both Mac and Windows NT systems and includes an interface to support an optional BlueICE SDI video daughter card. Basic BlueICE is also field-upgradable to Ultra BlueICE with a simple snap-on duughter card
- With eight TriMedia processors, Ultra BlueICE hardware delivers up to twice the speed of Basic BlueICE for the ultimate in performance — creating stunning graphics and publishing digital video for broadcast, CD-ROM or web distribution

BlueICE SDI Video Daughter Card

A revolutionary option for uncompressed video capture and playback, BlueICE SDI Video daughter card attaches to either Basic or UltraBlue cards eliminating the need for extra PCI slots devoted to video cards. The BlueICE SDI Video card provides SMPTE 259M video capture direct to disk. It provides frame-accurate deck control and captures QuickTime compatible media

- Real-time capture of SMPTE 259M video from your tape deck, fully integrated within the After Effects environment
- Uncompressed video footage is stored directly to disk with no compromise in video quality
- QuickTime format for seamless integration with your After Effects projects
- Video monitor output for viewing during creative iterations. When you are satisfied with the results, yoou can layoff directly to tape — uncompressed and real-time — all from within the After Effects environment
- Frame-accurate VCR control through the remote serial port VCR control software. Capture the exact footage you want to work within your After Effects project. The deck control interface for capture and upload is integrated right into the After Effects user interface 1,399.95

BUILDING YOUR OWN TOASTER WORKSTATION

Preparing for Video Toaster 2.0

By
Blaine Holm

Editors Note: *This is the second article that NewTekniques has printed on building a Video Toaster workstation. With version 2.0 of the Video Toaster on the horizon, Blaine Holm updates the earlier article. Though VT2 is not yet available, we thought you might wish to expense an upgrade or a new system before the end of the tax year.*

Let's begin by saying, if this is the first PC you've ever built, then you should reconsider and buy a turnkey system from one of NewTek's many reliable authorized resellers. (But don't stop reading because this article will inform you about some of the options you will discuss with your dealer.) If you have built a PC before, then you should have the basic skills needed to assemble the Toaster Workstation of your dreams.

With Toaster 2.0 so close, it makes sense to build a system compatible with the highly anticipated Toaster Switcher and Storyboard upgrade. Since the hardware requirements for Toaster 2.0 remain a moving target, I enlisted the gracious support of Paul Lara, the Video Toaster Product Manager, and Dr. Andrew Cross, NewTek's Senior Engineer. Even though we are tapping the source, please remember that specifications can change before release time.

But also consider that NewTek engineers are developing 2.0 with hardware currently available. In fact, according to Dr. Cross, 2.0 "has to run on a BX, because the engineers are developing using BX based systems."

Chipsets, Motherboards, Memory and Processors

Although not featuring the latest bells and whistles, the BX chipset remains Intel's most stable offering, and is still a great choice. Many BX/GX based 100MHz Front Side Bus (FSB) systems are still being sold; but no new dual processor boards based on the BX chipset are available.

Though a very fast single CPU should be able to run 2.0, some of the transitions may require rendering. To achieve real-time effects, dual CPU's are recommended and Dr. Cross said it's a good idea. One of the most stable dual boards on the market remains the Tiger100.

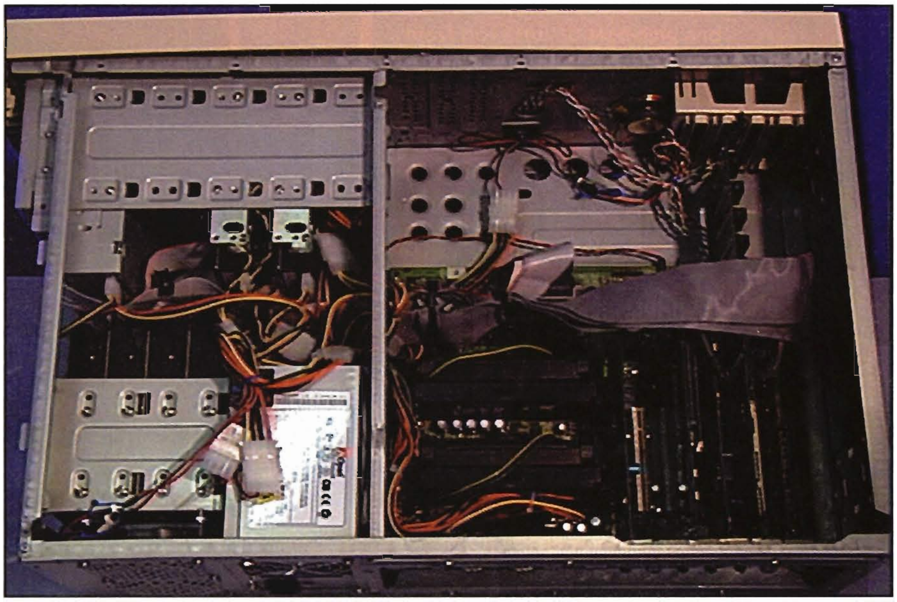
NewTek is developing 2.0 on 600MHz Intel systems. Of course, conventional wisdom dictates that you buy the biggest fastest system that you can afford. At press time, Intel's 800MHz processor is the sweet spot for price/performance ratios. (You can check up-to-the-minute prices on www.pricewatch.com.)

AMD's new Athlon Thunderbird CPU's should also be considered. Currently, single CPU Athlon based systems are running Toaster 1.0 just fine. The chip outperforms a more expensive, comparable Intel offering. Dual Athlon motherboards that support Double Data Rate or DDR memory are due sometime in early 2001.

Intel and SuperMicro make 840 based dual boards; but they take the controversial Rambus RDRAM, which is more expensive than it needs to be. However, at the moment, the 840 board is *the* highest end workstation board for the Pentium III, and would make a great performance system for Toaster 2.0.

To add to the mix, Intel has just introduced the Pentium 4 starting at 1.4GHz and 1.5GHz clock speeds. But dual processor Pentium 4 motherboards will not appear until the middle of 2001. And the only P4 systems available require RAMBUS memory.

New boards from Tyan and SuperMicro are coming out based on the ServerWorks chipset with higher end features, such as AGP-4X and 133 FSB. The newest



round of VIA boards that support dual FCPGA (Flip Chips) promise to offer better compatibility and memory performance than the first revision of those boards, and will provide a cheaper alternative to the ServerWorks boards. All of these boards are a viable base for a great Toaster workstation.

Pay attention to the type of RAM your system requires. All RAM is not created equally so stick with high quality memory. Also, not all Flip Chips will perform in SMP (dual) mode. Make sure that you obtain the correct stepping value, which is cb0. (Keep an eye on www.videohardware.com for the latest details on compatible hardware for the Toaster.)

Getting Started

Proper component selection can make or break your system. Now that we have hashed out the motherboard situation, let's look at the available options for video cards, sound cards, hard drives, and cases.

Your computer case provides the home for your system. It should have enough power and cooling to withstand the demands of your motherboard and other system components. Look for power supplies that meet the latest ATX 2.03 spec. The case should be of "server" quality, with a minimum of 1.2mm thickness, and ideally, should meet Intel's spec for dual processor systems. SuperMicro, Enlight, Antec, Aopen, and others make suitable cases. Make sure the case has at least 2 exhaust fans and enough drive bays.

Sound Card

Toaster 1.0 requires a separate audio card, and we strongly suggest a LynxOne or Antex Studio Card. Both will achieve perfect audio sync under most circumstances and provide professional audio cable connections. The much cheaper Ensoniq cards offer less A/V sync capability but work well for many users.

Toaster 2.0 will activate the audio connections on the Toaster card and you will not need a separate audio card. If you have invested in a LynxOne or an Antex, NewTek plans to make your audio card function as the audio source in 2.0, adding even more functionality to your system. When installing your LynxOne and sync cable, take care to connect the right pins and pay close attention to the software configuration directions.

Video Card

Thanks to NVIDIA, several new varieties of the G-Force GPU are appearing in some very nice video cards. Any of the G-Force256 based boards work fine, and new cards based on the G-Force2 MX chip support dual monitors via the "Twin View" architecture. We are partial to the Elsa series of cards, since their drivers usually offer better OpenGL performance needed for smooth LightWave use.

The Matrox G400 also supports dual monitors and has been used in a lot of systems. This card will function in Toaster 2.0; and according to Dr. Cross, compatibility with this card will be tested with each build of the Toaster software. The drawback with this card is its rather dismal OpenGL performance, making it a poor choice for LightWave users. Even the older TNT-2 based cards should be just fine.

I have just learned of a new card from ATI that supports dual monitors using Appian's HydraVision technology. We will certainly be checking this card out, since dual monitors are ideal for editing with a Toaster.

Hard Drives

Currently, the Toaster requires 22 MB's per second throughput from the video hard drives; but with the release of 2.0, that requirement may triple (author's speculation) for real-time performance. We have tested several disk configurations, and think Ultra160 SCSI is the best solution. (NewTek has them in their demo machines.) Four Ultra160 drives will yield about 110-120MB's per second using NewTek's disktest program, which is actually beyond the practical limit of the 33MHZ PCI bus.

Another option involves 3ware's Escolade controllers, which use single channel ATA66 ports to create hardware RAIDs with inexpensive ATA66 or ATA100 drives. We tested the IBM 75GXP series of hard drives and sustained more than 90MB's per second using four drives. Escolade makes a 4 port and an 8 port version of this card. (Eight 75GB hard drives provides more than 8 hours of uncompressed video storage for a very reasonable price.)

Safety First

Now comes the fun part, installing and getting everything up and running. Since

each motherboard and component combination raises unique issues, discussing specific assemblies is beyond the scope of this article. (We are producing instructional videos on assembly. Please check our website at www.videohardware.com.)

Every time you tinker inside your computer, you need to take some basic safety precautions. Unplug your computer before you open the cover and never apply power to the system when the cover is removed. Before you close up the case and turn back on the power, make sure you have secured all cables away from fans, and you have left no stray screws lying around. Check that your power cables are plugged in securely to the motherboard, hard drives, and fans. Double-check every connection before you power on the system. And never open a power supply - there really are no user serviceable components inside.

Pay attention to the PIN 1 orientation of ribbon cables (RED STRIPE). Also, a lot of cases have very sharp edges. Nothing ruins the look of your cool new Toaster system more than a patchwork of bloodstains on the case.

You should have some static protection around your work area. Install a static dissipative work mat. Attach the mat to a known good ground and then attach a static strap to the mat. If you don't have a static strap or a mat, at the very least, make sure you touch something grounded before handling any of the components. Never touch any of the chips that are on the circuit boards, and never touch the gold connectors on the edge of the PCI cards.

Windows NT or Windows 2000?

Windows 2000 will be required to run Toaster 2.0, since certain advanced user interface features are only available with Windows 2000 (Win2k). That's actually good news because I believe it's a whole lot easier to install. Win2k will recognize all of your hard drives, and properly detect both SCSI and IDE interfaces, something NT may or may not do for you. Make sure you obtain a version with the latest service pack (currently Service Pack 1).

If you have ANY software protection devices or "dongles" attached, remove them before installing or upgrading to Win2k. I did not do this and fried my LightWave 6 dongle. Apparently, the "hardware wizard" causes this problem when probing the parallel port during the install process. The easiest way to install Win2k is to boot from your Win2k CD. Next, we need to set some options in the BIOS.

BIOS settings.

Depending upon the motherboard, your options may be different than what I have listed here. These are a guide.

1) Enable System BIOS shadow, and Video BIOS shadow
2) Disable ALL power management
3) Answer "yes" to Plug-n-Play OS
4) Assign an IRQ to VGA
5) Init AGP port first, (if using an AGP card)
6) MPS Spec:MPS 1.4 (required for Win2K, if using a dual board)
7) 1st Boot Device=1st ATAPI CD-ROM or SCSI
2nd Boot Device=Floppy Disk Drive
3rd Boot Device=1st ATAPI HDD or SCSI
8) ACPI=Enabled

Insert the Win2k CD into your primary CD-ROM, and reset your computer. When you see the blue screen and drivers starting to load, press the [F6] key, this will allow you to install any drivers for any SCSI or RAID controllers you might have. From there just follow instructions on screen and with some good luck, you'll be up and running in no time at all.

By default, Windows 2000 is set up for ATA33, enabling ATA66 requires a registry edit found on our website. Also, an issue exists with VIA based chipsets and Win2K involving the AGP port. Microsoft has a patch (link is at www.newtekniques.com).

Make sure that you have all the latest drivers for your video and audio cards, and if using a VIA chipset, make sure you have the latest 4 in 1 drivers available from VIA's web site.

Once Win2k is installed, you should partition and format your hard drives. What used to be called Disk Administrator in WindowsNT is now located in Control Panel/Administrative Tools/Computer Management. Click on [Storage]. The interface is similar to the old one. Select a drive, and create your partitions.

To create a stripe set, right click on one of the drives you want to use for the stripe set. Choose [Create Volume]. Then pick [Stripe Set] at the next menu. Now select the drives and click the [Add] button. Make sure you choose NTFS for a file system and select [Full Format] and the default settings, then click [Next] and [OK]. The drives will start formatting. The nice thing about Win2K is that it contains a built-in defrag feature.

[Editors Note: You should now have your basic computer system functional. Blaine also has written instructions for installing Toaster 1.0 and Speed Razor software. Because of space limitations, we are posting this bonus text (and a few large screen grabs) in the Bonus section on www.newtekniques.com.]

If you have problems, consult the NewTek dealer who sold you the Toaster card. They are some of the best and most knowledgeable dealers in the industry. We also faithfully believe that if you buy "just a Toaster card" from a dealer, that the dealer should give whatever support that is reasonably possible in helping you get your system running. Most of us will do that in a heartbeat.

Toaster 2.0 promises to re-deliver Tim Jenison's original dream of bringing the power of broadcasting television to the masses, and promises to be much larger than the first revolution. Hold on to your seats America and the world, Toaster 2.0 is coming!

Blaine Holm is President of Video Hardware Services, LLC, a NewTek reseller based in Manchester, NH. We make "Freedom of Imagination Affordable(sm)." Email him at blaine@videohardware.com.

The view you got on your last vacation
The view you wanted!
Don't chance it. Use a professional travel agent.
Without a travel agent, you're on your own.
www.astanet.com
ASTA
American Society of Travel Agents

AuraFX

Manipulate Video In A Whole New Way!

StarBurst
BreathFX
They can be any
Color
Size

A collection of supercharged macros & filters for Aura

Visit our Web site for a

FREE DEMO

www.vionline.com

(813) 935-6410

Web #109

T.S. Computers & Video

11300 Hartland Street North Hollywood CA 91605
818-760-4445 www.vgn.com Fax 818-505-1811
Video Editing and Animation Specialists

T.S. Computers has been fulfilling the needs of video and animation professionals for over fifteen years. As a full-service dealer, we will provide you with the tools you need to get the job done!

We are fully authorized dealers for:

NewTek
DIGITAL FUSION
DPS™
PINNACLE SYSTEMS

Yes, we build turn-key systems !
Yes, we can upgrade your current video editing system !
Yes, we provide Internet services!
Yes, we sell and service Amigas !

Toaster NT
dps Reality™ Studio Digital Disk Recorder
dps Velocity™ FASTER, SHARPER, EASIER EDITS

Web #110

The Tesseract

Take your video productions to a whole new dimension with NewTek's ToasterNT and the Tesseract Workstation.

Custom configurations designed to fit your needs and budget.
Customer support always guaranteed.

Don't wait for the future to arrive.
Be there ahead of the crowd.

Call:

DigitalArts

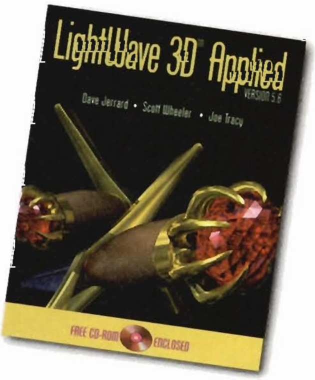
724 N. Walnut/ P.O. Box 5206
Bloomington, IN 47407-5206
800-692-6442, FAX 812-330-0126
www.digarts.com

Web #111

LightWave 3D™ Applied *Version 5.6*

Written by industry-leading authors
Dave Jerrard, Scott Wheeler and Joe Tracy

$49.95 with CD-ROM
Item #CADB700, Over 500 pages, softcover



Imagine a tutorial that has over 100 steps and more than 62 images, and that's just one chapter! The authors to LightWave 3D™ Applied, Version 5.6 understand that users learn best from step-by-step hands-on tutorials. With nine very detailed tutorial chapters, readers of LightWave 3D™ Applied, Version 5.6 will be able to build an entire medieval castle and onward to the Mercury Space Capsule. In addition, the authors have set up a specially designed web site that allows you access when you purchase the book to help answer any questions you may have.

With your purchase, you will receive a **FREE CD-ROM** containing materials featured in LightWave 3D™ Applied, Version 5.6 and extra objects, textures, and images.

Features Include:

- Nine step-by-step and hands-on tutorials.
- A special chapter for those who have never used LightWave 3D™ or Inspire 3D™ and want to get started.
- A special chapter on the secrets of a great demo tape and breaking into Hollywood as a LightWave 3D™ animator.
- A CD-ROM packed full of material from the book along with FREE bonus material!
- Insight from industry leading authors along with their tips and secrets to help you succeed.

Table of Contents:

Chapter 1:	Beginner Techniques: LightWave 3D™ and Inspire 3D™ Basics
Chapter 2:	Tutorial: Planet Earth
Chapter 3:	Tutorial: Building a Castle, Part 1
Chapter 4:	Tutorial: Building a Castle, Part 2
Chapter 5:	Tutorial: The Fountain in the Courtyard
Chapter 6:	Tutorial: The Sword in the Stone
Chapter 7:	Tutorial: Catch a Wave
Chapter 8:	Tutorial: The Mercury
Chapter 9:	Tutorial: The Mercury Parachute
Chapter 10:	Tutorial: Landing at Sea
Chapter 11:	Insight: Breaking Into Hollywood

ORDER TODAY!

1-800-598-6008
Outside the U.S. 218-723-9180
Fax 218-723-9146

Visit our web site
www.advanstarbooks.com/lightwave/

Code: 950594r

Product information is available through the InfoTek service on **www.newtekniques.com**

FUTURE FANTASTIC

Genesis V2 PRO

Genesis V2 PRO

The Ultimate Visual FX Plugin For Lightwave and Photoshop

Prepare to take your visual FX to the next level! Genesis V2 PRO delivers the most versatile and complete visual effects package ever, with infinite possibilities for creating stunning lens flares, glows, fire, smoke, explosions and much, much more Genesis V2 PRO is a plugin available for Photoshop and Lightwave that comes with more than 200 special FX files that can be combined and used with your images and animations* to produce spectacular results. Not enough? Then create your own FX from scratch using the powerful set of tools provided in the new and improved interface.

Take a look at these features:

- Create effects by compositing an unlimited number of elements.
- Real time previews to provide visual feedback as you work.
- Huge variety of rendering, compositing and image displacement modes, including blurs, colourization effects, lighting and many more.
- Every variable that makes up an effect is editable
- Advanced parametric fractal noise algorithms for the ultimate in organic effects.
- Powerful morphing controls to create multiple unique elements quickly.
- Animate all element parameters over time, including size, rotation, age, intensity, alpha channel and colourization of effects*

Whether you are thirsting to create amazing visual FX for film, television games or the internet, Genesis V2 PRO will deliver stunning results with complete resolution independence and final rendering performed to the highest possible quality.

Genesis V2 PRO is the plugin you have been waiting for!

* *Animation feature only available in the Lightwave version*

Before

After

GenesisPRO
Before

GenesisPRO
After

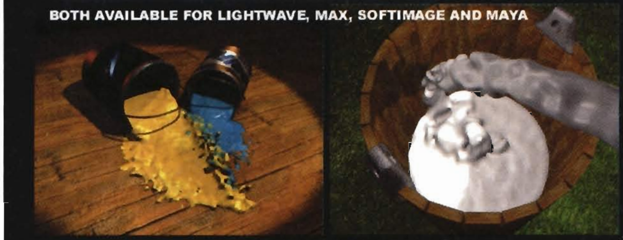
For a **FREE** evaluation version visit our website a:
www.futurefantastic.com
Genesis V2 PRO is available through all good plugin resellers

Web #112

RealFlow

FLUID DYNAMICS SIMULATOR

BOTH AVAILABLE FOR LIGHTWAVE, MAX, SOFTIMAGE AND MAYA



RealWave

OBJECT-FLOATING SIMULATOR
WAVE GENERATOR

NEXT LIMIT

www.realflow.com
info@nextlimit.com
Phone +34 91 5542170
Fax +34 91 5540657

Web #113

VideoToasterNT.com
SAFE HARBOR COMPUTERS

VideoToasterNT.com is the premiere community for NewTek Video Toaster NT enthusiasts! It offers in-depth information about the exciting new features of 2.0 such as real-time 3D transitions, live switching, keying, character generation and web streaming.

View Streaming Demos

View the commercial aired on prime-time television or watch any of the streaming demos.

Online Design Center

If you're looking to invest in a Video Toaster NT, the online design center is a perfect way to put together the right system for your needs!

Interactive Forms

The interactive forums section is a great place to discuss the industry with other enthusiasts. There is nothing like the Video Toaster NT and no where better to share the excitement than at VideoToasterNT.com!

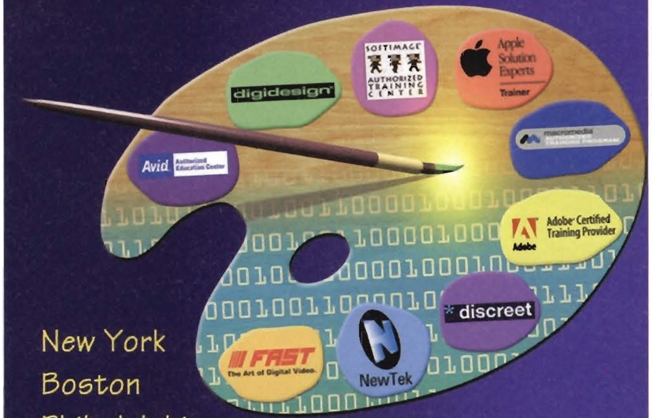
Safe Harbor Computers
800-544-6599 • Mon.– Fri. 9-5:30 CST
videotoasternt.com – the original, unofficial site
dedicated to Video Toaster NT® • Video Toaster is a registered trademark of NewTek, Inc.

Web #114

Product information is available through the InfoTek service on **www.newtekniques.com**

Future Media Concepts

Training a new generation of Digital Artists


digidesign
SOFTIMAGE AUTHORIZED TRAINING CENTER
Apple Solution Experts Trainer
Avid Authorized Education Center
macromedia
Adobe Certified Training Provider
discreet
FAST The Art of Digital Video
NewTek

New York
Boston
Philadelphia

1-877-FMC-training

www.FMCtraining.com

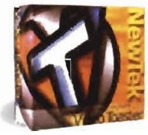
Web #115

Turnkey Nonlinear Editing Systems.
We Repair Amiga's and P.C.

NewTek Direct Dealer

Nt Toaster Cards
Nt CustomToaster Kits
Amiga Toaster s and Flyer
Lightwave Mac, PC, Amiga
Ozware, Aura 2.0, Tutorials

Hardware and Software
Millenium CD for Amiga
Matrox G 400 / 32Video
Wacom Drawing Tablets
Diamond 770 Video Cards
Abit, Asus, Motherboards
Seagate, IBM Hardrives
Networking Solutions
Sound forge, Acid
Intel, AMD, MSN, Adobe
Windows 2000, 98, Nt 4.0



NT Video Toaster Sys:

1. IDE 1hr Video Storage
2. SCSI 1hr Video Storage
3. Anim Work Stations
4. Audio Work Stations
5. We do on site Training

Pricing
Below Suggested Retail
Ed. Pricing Available
We accept:
MasterCard VISA AMERICAN EXPRESS Card

H and R Custom Computers, Inc
Voice: 1-954-614-0924 Fax: 1-954-961-0819
HandRcomputers.com / Amiga1@prodigy.net

Web #116

start your engines

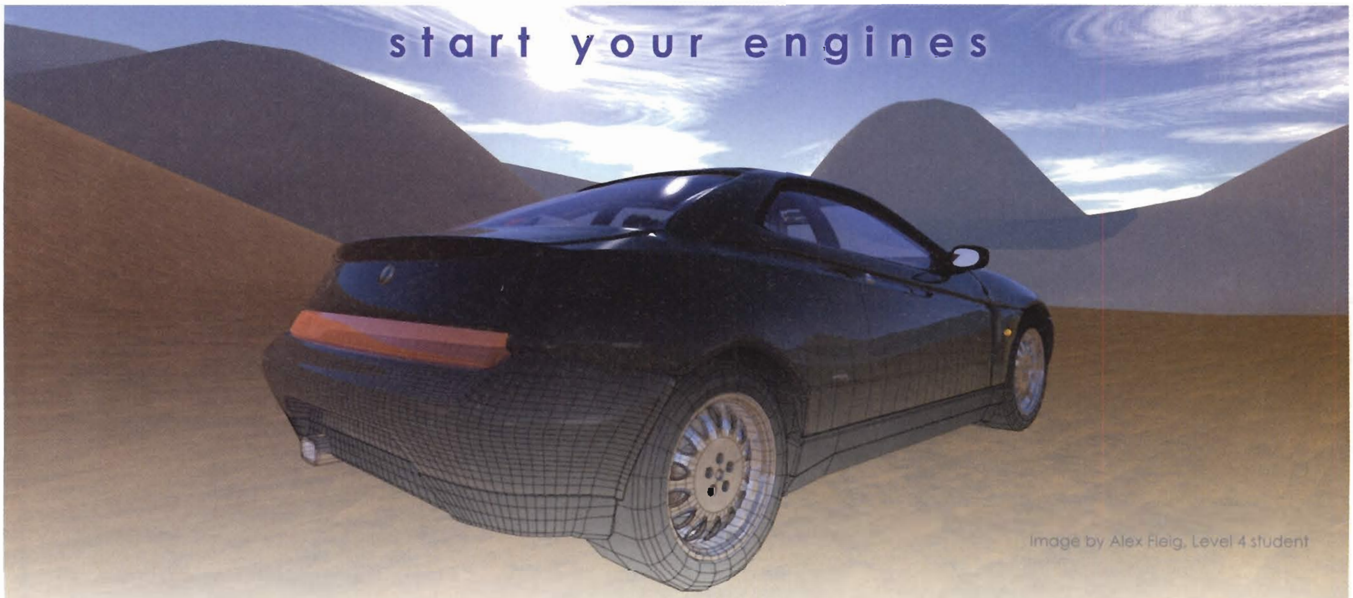


Image by Alex Fleig, Level 4 student

Get ready to accelerate your LightWave [6] skills with our world-class training programs:

- Specialized Corporate Training
- 3DX Core Curriculum
- Youth Animation Program

3D Exchange | Animation Training

Call today for your free information packet

NewTek

2100 Ferry Point • Bldg.13 • Suite100 • Alameda, CA • 94501 • Ph. 510.747.1540 • Fax 510.747.1545 • www.3dexchange.com

Web #117

LIGHTWAVE - ALL PLATFORMS
VIDEO & ANIMATION HQ
TOASTER-NT
LIGHTWAVE 6.0

MONITORS - VIDEO - MULTIMEDIA

NEW! AURA 2.0
Preorder now!

Special!
AURA BUNDLE
AURA Plus 3 Video Tapes

THE LIVELY COMPUTER
1283 E.Main Street
El Cajon CA 92021
Voice:
(619) 440-3311
Fax:
(619) 440-0611
Visit us at

Hardware & Software:
Newtek Direct Dealer Video Toaster/Flyer upgrades
LightWave Plug-ins & tutorials
Ozware Hot Disk,Short Cuts
Visual Inspiration AURA FX
Nova Design ImageFX 4.0, Aladdin and Millenium
MITSUBISHI 19" monitors
Iiyama Flat Screen monitors
Addenda cable/Scsi products
Desktop Images Video tapes
Seagate harddrives a/v ready
Eyelight Tornado 3d

REPAIR - UPGRADES - NETWORKING

www.livelycomputer.com
NONLINEAR EDITING SYSTEMS

Web #118

A Fast & Affordable 3D Render Farm

- Maya, LightWave, 3ds max & VIZ
- 102 Processors/51 Networked Dual PII/PIII
- T1 Internet Access & File Submissions

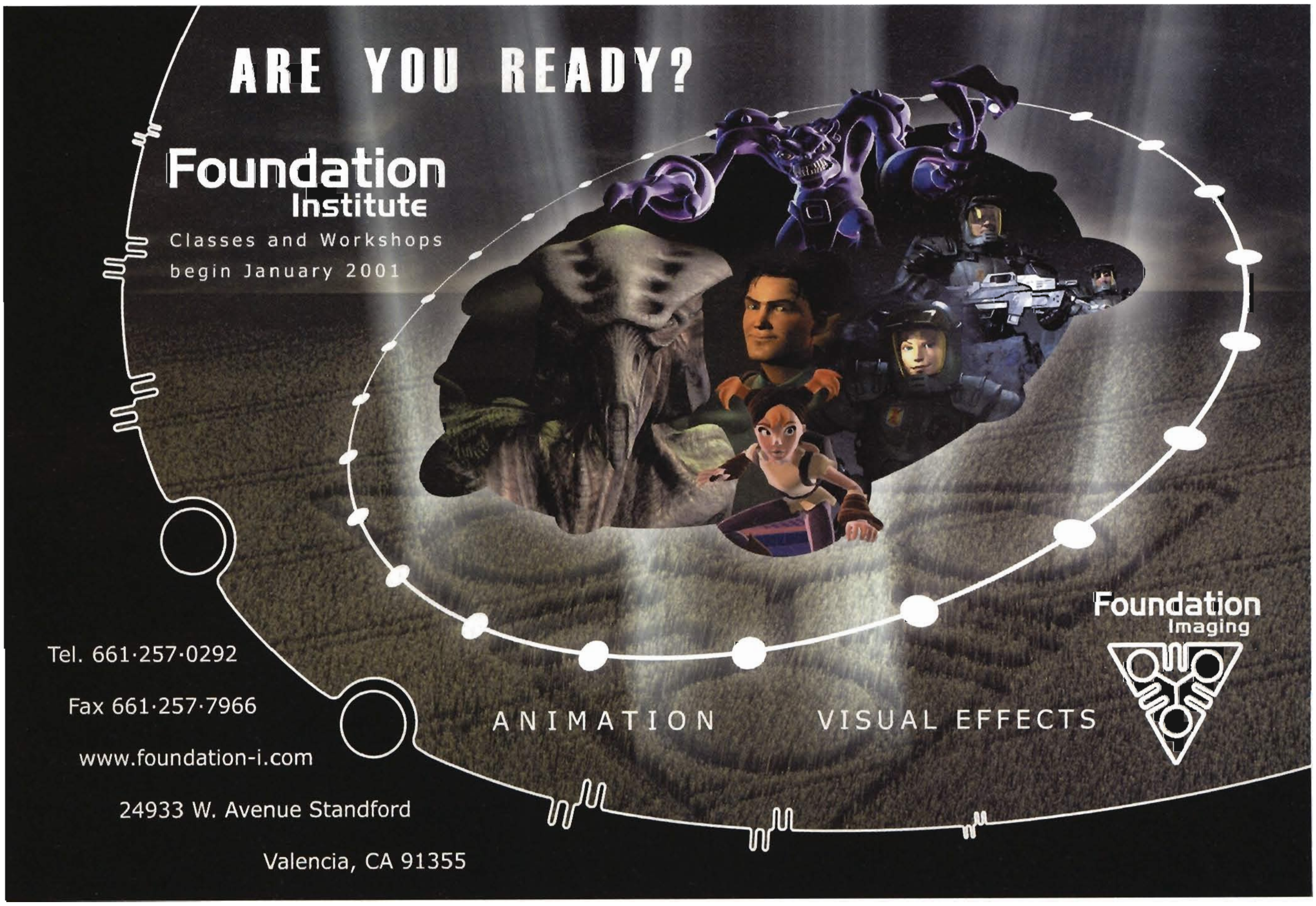
Are you tired of render farms that promise technical expertise, reasonable rates, professional services and can't deliver?

r3D provides the perfect solution to companies with high animation production needs. We exist to bridge the gap between your existing equipment and meeting your production needs during Critical Deadlines.

Visit our website at: www.ren3d.com
email: info@ren3d.com
NEW LOCATION!
4091 E. La Palma, Suite O
Anaheim, CA 92807
NEW! Tel: (714) 630-4425
NEW! Fax: (714) 630-4397

render FARM
Maya • LightWave • 3ds max™& VIZ

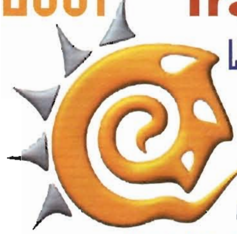
Web #119


ARE YOU READY?
Foundation Institute
Classes and Workshops
begin January 2001

ANIMATION VISUAL EFFECTS
Foundation Imaging

Tel. 661·257·0292
Fax 661·257·7966
www.foundation-i.com
24933 W. Avenue Standford
Valencia, CA 91355

Web #120



2001 Hands-On Training

LightWave 3D 6.5

NewTek
Authorized
Training
taught by
Bob Anderson

Las Vegas
February 16-27
Character Animation Series

Topeka
Budget Workshops
March 22-30
Photorealism Series

Washington DC
April 19-30
Character Animation Series

Topeka
Budget Workshops
May 15-June 2
Our entire curriculum in
19 intensive days

Topeka
Budget Workshops
July 17- August 4
Our entire curriculum in
19 intensive days

Minneapolis / St. Paul
September 12-23
Character Animation Series

Topeka
Budget Workshops
October 11-22
Character Animation Series

Orlando, Florida
November 7-18
Character Animation Series

Photorealism Series
- LightWave 3D Essentials (3 days)
- Lighting/Camera Techniques (2 days)
- Surfacing Techniques (2 days)
- Compositing Techniques (2 days)

Character Animation Series
- LightWave 3D Essentials (3 days)
- Advanced LW 3D Techniques (3 days)
- Organic Modeling & Character Animation Essentials (2 days)
- Intermediate Organic Modeling & Character Animation (2 days)
- New LightWave 3D 6.5 Advanced Features (2 days)

Washburn University
Division of Continuing Education

1700 SW College
Topeka, KS, USA 66621
lightwave@washburn.edu

785-231-1010, ext. 1399
FAX: 785-231-1028

www.washburn.edu/ce/newtek

Web #121

RENDERING ■ RENDERING

300 PROCESSORS

SWALES
RENDERING SERVICE
(626) 351-6967

PASADENA, CALIFORNIA
BELTSVILLE, MARYLAND
■ 256-1024 MB RAM/CPU ■
T1 INTERNET CONNECTION

$3.67
AS LOW AS
$3.67/CPU HOUR

NETWORK
RENDERING
LIGHTWAVE 3D
3D STUDIO MAX
RENDER@SWALES.COM
WWW.SWALES.COM/RENDER

NAPOLEON ■ NEW YORK

Web #122

AMITRACE COMPUTER SYSTEMS
www.acsvideo.com

Authorized dealer for Play,
Applied Magic, Media 100,
Scala and NewTek

Authorized dealer for all NewTek products:

Lightwave 3D 6.0 and Video Toaster NT are in stock! Please call for our special pricing.

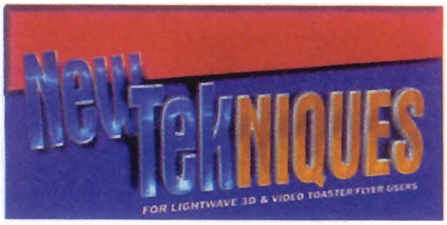
Also an authorized dealer of the following:
Trinity
Screen Play
Media 100 Mac/NT
Matrox
Scala Infochannela

Media 100™

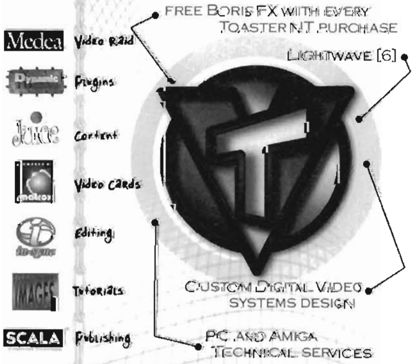
In business since 1987, ACS Video is your one stop shop for all digital video hardware, related accessories and service. We specialize in Amiga and Video Toaster repairs and upgrades. We keep all parts in stock for fast turnaround. All systems are available for demo by appointment.

5344 Jimmy Carter Blvd.
Norcross, GA 30093
(770) 263-9190 **1-800-962-4489**
Fax: 770-263-7852 **www.acsvideo.com**

Web #123


NewTekNIQUES
FOR LIGHTWAVE 3D & VIDEO TOASTER FLYER USERS

Canada's NewTek Centre
We are proud to be the Premiere
NewTek Products dealer in Canada.



VideoLink Inc.
animation canada
www.videolink.ca
In Canada call: 1-416-690-1690
Toll free: 1-800-567-8481

Web #124

VIDEO HARDWARE SERVICES

250 Commercial St. Manchester, NH 03101
Phone(603)627-5337 Fax(603)626-8821

New England's Authorized NewTek Dealer

Introducing the "Toast-a-Cube"
- 13 Drive Bays
- 13.4"w x 17.3"d x 13.4"h
- 400W Power Supply
- "One Click" Restore CD
- Customized Training Video
- 3 High Speed Cooling Fans

Buy your Toaster card from Video Hardware Services and receive a **FREE** tutorial on how to build your system!

New Product Arrival
3ware Escolade 4 and 8 port boards
Get 90mb's per sec. w/4 ATA66 drives!
Click over to
http://www.videohardware.com

And try our On-Line Configurator!

Authorized Amiga Service Center
Providing complete Amiga systems, upgrades, and On-Site/Depot Repair.
WE ARE AMIGA EXPERTS

Web #125

Product information is available through the InfoTek service on **www.newtekniques.com**

VARTO TECHNOLOGIES
3D Modeling Animation NLE System
Hardware & Software

To See a Demo Call 1-888-656-6233 E-Mail:Sales@VartoTechnologies.com
www.VartoTechnologies.com 7700 River Road One Marine Plaza North
Bergen NJ 07047 Tel: (201) 662- 6200 Fax: (201) 261-7478

PRE ORDER 16 INPUT SWITCHER AND
GET 2.0 TOASTER NT UPGRADE FREE
WE CARRY ALL NEWTEK'S PRODUCTS
LIGHTWAVE[6], AURA, SDI OPTION, VIDEO TOASTER NT
CG PROGRAM'S LIGHTWAVE 3D PLUG-INS
ENTRY & ADVANCED LEVEL TRAINING FOR VIDEO TOASTER NT AVAILABLE

VIDEO TOASTER NT 2.0
TURN KEY SYSTEMS

NewTek
Authorize
NewTek
Reseller

Dual 600MHZ to Dual 1GHZ Video Toaster TurnKey Systems
2 Hours and more Internal ATA100 or U160 SCSI Video HD

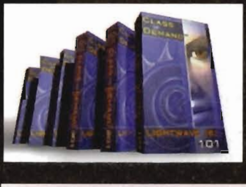
Repair Services Available for
Amiga and Amiga Video Toaster Systems

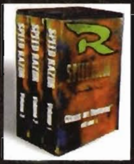
THE JOY OF SIX!
Lightwave [6.5]
The new version of award winning
most powerful 3D Modeling and
Animation System from Newtek.

Dan Ablan's
Lightwave 6.0
Training Book

Medéa
AUTHORIZED
VAR

Medea Raid RT
Capture / Playback
Your D1 Video Clips
65MB/sec 1, 2, 3,
Hours and More.





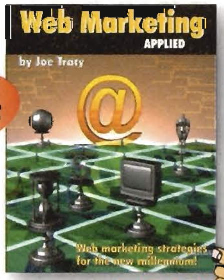
Lightwave 6.0
& Speed Razor
Training Tapes

FireWire for the
Video Toaster NT
True lossless DV transfer.
Uses six times less hard
disk space.

Toaster RTV Plug-ins Capture & Playback Toaster from Adobe
Premiere & After Affects

Web #126

You're Open for
Business on the Web



$31.95
Item#DMGB100
Over 300 Pages
Soft Cover

Written by internet specialist and leading author, Joe Tracy

Coming in December

Read This Book!

...What's Your Next Move?

Web Marketing Applied, Web Marketing Strategies for the New Millennium, is the must-have book for Webmasters, Web marketers, Web developers...or anyone involved in the marketing or promotion of a Website. Every chapter is filled with powerful ideas to help you drive traffic to your site. Excellent for any industry, business or profession.

Master Your Next Move with Success!
Call 1-800-598-6008
Fax: 218-723-9146 • Outside the U.S. call 218-723-9180
Please mention code 950918NT when ordering
Visit our Website and order online at
www.advanstarbooks.com/webmarketing/

ADVERTISERS	PG #	WEB #
3D Exchange	44	117
ACS Computer	46	123
ArchVision	CV.2	101
B & H Photo Video	34-35	107
B & H Photo Video	36-37	108
Dave School	21	105
Desktop Images	17	104
Digital Arts	42	111
Exodus	CV.3	129
Foundation Institute	45	120
Future Fantastic	43	112
Future Media	44	115
Game Developers	33	128
H & R Computers	44	116
IDG Mac World	27	127
Lively Computers	45	118
Marlin Studios	9	102
NewTek, Inc.	CV.4	100
NewTek, Inc.	13	103
Next Limit	43	113
r3d	45	119
Safe Harbor	28-29	106
Safe Harbor	43	114
Swales Aerospace	46	122
T S Computers	42	110
Varto Fine Art	47	126
Video Hardware	46	125
Videolink, Inc.	46	124
Visual Inspirations	42	109
Washburn University	46	121

Product information is available through the
InfoTek service on **www.newtekniques.com**

MOJO

MUSINGS FROM OUR ACE LIGHTWAVE ANIMATOR

CAREER FEAR

Don't Hide When Opportunity Knocks

In high school, I read Frank Herbert's novel Dune. So many of the finer details have dislodged themselves from my memory (as Homer Simpson says, "Every time I learn something new, some old stuff gets pushed out"). However, one nugget of truth managed to stick: "Fear is the Killer."

Herbert was referring to warriors who were in danger of losing their lives more because of their fear than inferior skills. I think it serves as an insightful perspective into the psychology of any lost battle.

Recently, I placed a "help wanted" ad in the LightWave newsgroup, looking for freelance character modelers to help with a project. (A thanks to all of you who sent in material.) One particularly promising fellow responded - a junior at a Florida college (we'll call him RD). At best, I was hoping that his work would be good enough for more experienced folks at Foundation to finish. Much to my surprise and delight, his model vastly exceeded our highest standards. So, I did what any self-respecting supervisor would – I offered him a job!

He was understandably hesitant – you can't expect a guy to just quit college after three years. Besides, for all I knew he was earning a degree in architecture or engineering. So I asked him about his major. His reply? "Computer graphics."

Well, now all bets were off. Toss out your textbooks, pack your bags, get in your car, and head for the Hollywood Hills.

Not so simple. RD was flattered and tempted by the offer, but he felt he needed to finish school. Besides, after plunking down $50K, his parents would skin him like an orange before they'd let him drop out! He had to complete that degree and pick up his diploma.

Degree?! The model I was staring at on my screen was all the diploma this boy would ever need. "So let me get this straight," I said. "You're in school studying computer graphics, trying to learn enough so that one day you can get a job at a place like Foundation Imaging, right?"

"Ummm, yeah, pretty much," he replied.

"Well, then you're done. Stop wasting time. I'm offering you a job,"I said.

Still, RD was torn. Should he simply abandon academia and risk alienating his family to jump-start his career? Or should he do the "right thing," and finish school? It's a tough question.

Of course, in the arts, your degree means nothing. Seriously, my friends, toilet paper is a more useful commodity. I conferred with a few other industry professionals, and they all agreed – if you have a good demo reel, they couldn't care less if you even *went* to school. All anyone is interested in is what you can do. In fact, when we receive demo reels, we don't even *look* at the résumé – we just watch the tape.

As I explained to RD, I dropped out of college myself and, while I don't have a diploma, I do have an Emmy Award. I learned a lot in school, and I'm glad I went; but the lack of a degree has had no impact on my career whatsoever.

To be fair, RD was looking forward to working on his senior thesis, his very own computer-generated short film. He wisely understood that when he finally does start working in the industry, he would have precious little time to do his own thing.

In all honesty, his chances of getting a top-notch job in a year and a half will be just as good as they are now (if not better), so it's a good idea for him to use his "free" time while he has it.

If he didn't have a definitive plan of action and I thought he was acting out of fear, I would not have respected his decision. Artists are rarely practical; I admire RD's pragmatism.

When you are making career decisions, beware of debilitating timidity. "Fear is the killer."

Mojo, a Visual Effects Supervisor at Foundation Imaging, received an Emmy for his work on Star Trek: Voyager and can be reached at mojo@foundation-i.com.

www.newtekniques.com

10 Reasons to Subscribe to NewTekniques Today!

1. Content

NewTekniques delivers more information, tips, news and tutorials relating to NewTek products than any other publication.

2. Knowledge

NewTekniques has the top Hollywood FX artists and industry leaders sharing with you the same information that got them to Hollywood!

3. Insight

NewTekniques dissects some of LightWave's top Hollywood FX shots so that you know how the shots are achieved.

4. Simplicity

Tutorials in *NewTekniques* are presented in an easy to follow step-by-step process, making it easier for you to accomplish the end goal.

5. Support

NewTekniques is actively involved in supporting the NewTek user community and every reader. One of the ways this is accomplished is through the huge *NewTekniques* Web site and *NewTekniques* Mailing List.

www.newtekniques.com

6. Vision

NewTekniques can help give you a vision that will help take you and your work to the next level. Top Hollywood FX artists, give you important advice.

7. Design

NewTekniques invests strongly in layout design to make your reading more enjoyable.

8. Dedication

NewTekniques is not only dedicated to every reader, but the staff of *NewTekniques* are active participants in the various LightWave and Toaster forums.

9. Spirit

NewTekniques is a strong part of the NewTek community and spirit that surrounds it. All the columnists and staff interact regularly with readers out of a genuine desire to be helpful.

10. Reliability

NewTekniques has never missed a shipping date and is consistently delivered on time.

> “If you are going to buy one magazine to help you up the learning curve of 3D Design and animation, this is the magazine (NewTekniques) to buy.”
>
> — 3D Interactive.

Hear from industry experts, meet some new ones, and maybe even *become* one…with NEWTEKNIQUES magazine. From news and information to tutorials and insider tips, NEWTEKNIQUES will enhance your expertise and spark your imagination! Subscribe right now!

SUBSCRIPTION CARD

NewTEKNIQUES

131 W 1st St., Duluth, MN 55802-2065
Phone: 218-723-9477 • Fax: 218-723-9417

○ **YES! Begin my NewTekniques subscription immediately!**

○ no

U.S. & POSSESSIONS	**$32.00**
CANADA & MEXICO	**$42.00**
ALL OTHER COUNTRIES	**$58.00**

Payable in U.S. funds drawn on a U.S. bank

○ Bill Me

○ Charge my subscription to:

○ VISA ○ MasterCard ○ American Express

Name on Card ____________________

Card # ____________________ Exp. Date __________

Billing Address ____________________

City __________ State _____ Zip __________

Charges will appear on your credit card statement as Advanstar Communications Inc., which publishes and distributes this magazine.

SIGNATURE ____________________ Date __________

Name (PLEASE PRINT) ____________________

Title ____________________

Company Name ____________________

*Address ____________________

City ____________________

State __________ Zip __________

*Is this your home address? ○ Yes ○ No

Phone (_____) ____________________

Fax (_____) ____________________

E-Mail Address ____________________

Start Your Subscription Immediately!

Fax your subscription card back to us at: 218-723-9417

or

Subscribe on our website at: www.newtekniques.com

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO 665 DULUTH MN

POSTAGE WILL BE PAID BY ADDRESSEE

NewTEKNIQUES
131 W 1ST ST
DULUTH MN 55802-9882

Please fold along perforation and tape at top

www.newtekniques.com

NewTEKNIQUES

FireWire for the Video Toaster $495

True lossless DV transfer. Uses six times less hard disk space. True integration with Speed Razor, Aura, and LightWave. One cable, no hassles.

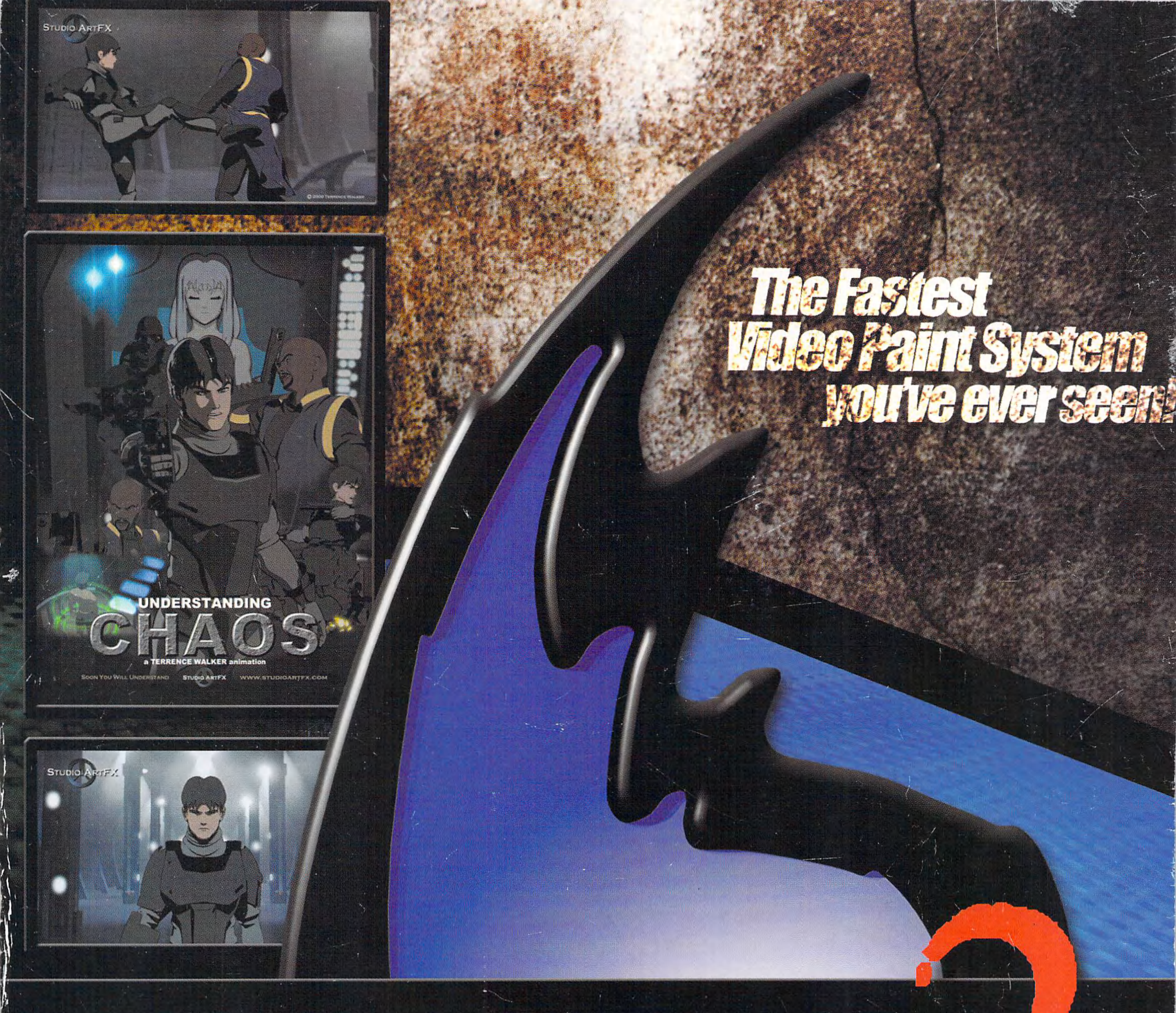
INTRODUCTORY PRICE INCLUDES PCI CARD, SOFTWARE, MANUAL, CABLE: $495 TODAY, $795 SOON.

FirePower
more ammo for your clip
Web #129

1 888 3EXODUS

www.exodusmm.com

© 2000 EXODUS MULTIMEDIA–ALL RIGHTS RESERVED. EXODUS MULTIMEDIA AND FIREPOWER ARE TRADEMARKS OF EXODUS MULTIMEDIA. FIREWIRE IS A TRADEMARK OF APPLE COMPUTER, INC. SPEED RAZOR IS A TRADEMARK OF IN-SYN CORPORATION. LIGHTWAVE AND AURA ARE TRADEMARKS OF NEWTEK, INC.


Studio ArtFX
© 2000 Terrence Walker
UNDERSTANDING
CHAOS
a TERRENCE WALKER animation
Soon You Will Understand
Studio ArtFX
www.studioartfx.com
Studio ArtFX
The Fastest
Video Paint System
you've ever seen

Aura 2

The Desktop Video Paint System

Paint over video and bring life to your animations.

Aura 2

Terrence Walker, creator of **'Understanding Chaos'**, has already discarded all his other 2D and painting tools in favor of Aura's unique flexibility, **"I can't mess with three different packages to get my work done...This one only paints, this other one can composite but you need a third for true 2D animation... Who needs that? With Aura, it's all right in front of me and I can do whatever I need to get the shot done!"**

Whether you are working on print graphics, web animations or video productions, Aura 2 from NewTek is the tool of choice. Aura's next-generation paint engine boasts impressive new features including **four-point pixel tracking, interactive keyframer, stroke recorder, natural media brushes** and **unlimited layers** with **real-time alpha channel**. Enhanced **scripting power** cut hours off production time and adds **flexibility, simplicity** and **speed**. Walker says nothing he's used comes close to matching the speed he's found in Aura. **"Speed is a real issue when you're one person trying to make a real show... Aura is lightning fast!"**

Walker's animation, created in Aura, can be seen at **http://www.studioartfx.com**
Read more about Aura at **http://www.newtek.com**

Creativity without limits is yours with Aura

Windows Media Player
File View Play Favorites Go Upgrade Help
Radio Music Media Guid
I can't fall!
Show:
Clip:
Author:
Copyright:
13.93% of 65412K

NewTek
8200 IH-10, Suite 900, San Antonio, Texas 78230 Phone: 210-370-8000 Fax: 210-370-8001
www.newtek.com

Creative imagery by
TERRENCE WALKER
www.studioartfx.com/uc_view.htm

Web #100